19
00:04:24.720 --> 00:04:49.560
Katherine Lee: All right, let's get started. Hello, everyone! Welcome to the second of our 3 astrobites. Earth week events in 2025. Today we'll be hearing from Dr. Michelle Wooten, who is the lead and co-founder of starry skies South, which is the Us. Southeastern chapter of Dark Sky International. Dr. Wooten has a ton of experience with building dark sky communities and promoting dark skies on the

20
00:04:49.560 --> 00:04:55.349
Katherine Lee: public level and the policy level. So I'm super excited to hear what she has to say, and, Dr. Booten, if you're ready, feel free to start.

21
00:04:56.150 --> 00:05:06.220
Michelle Wooten she/her: Alrighty. Thank you so much. I'm thrilled to be here with Astrobytes today. This community was an important one for me, going through grad school.

22
00:05:06.330 --> 00:05:12.229
Michelle Wooten she/her: and also afterward, as I continue to educate students about astronomy, and I really appreciate

23
00:05:12.450 --> 00:05:22.550
Michelle Wooten she/her: the articles that you write and the community that you build. So thank you for having me like, Catherine said. I'm going to be presenting on

24
00:05:22.690 --> 00:05:29.490
Michelle Wooten she/her: how to work with your community to save starry skies, which we all care about as astronomy people.

25
00:05:30.645 --> 00:05:34.219
Michelle Wooten she/her: So let me go ahead and move slides.

26
00:05:34.900 --> 00:05:39.519
Michelle Wooten she/her: I firstly want to point out that it is International Dark Sky Week this week

27
00:05:39.640 --> 00:05:43.219

Michelle Wooten she/her: this week. This year. It is April 21, st through the 28.th

28
00:05:43.430 --> 00:05:47.890
Michelle Wooten she/her: It always happens annually in April, on the week surrounding the new moon.

29
00:05:48.040 --> 00:06:00.150
Michelle Wooten she/her: and so all the people who geek out about dark skies like me. We get on our T-shirts. I'm wearing a dark sky T-shirt celebrating this week.

30
00:06:00.250 --> 00:06:15.239
Michelle Wooten she/her: and we go do public events. So there's a flyer for an event I'm doing this week in at Turkey Creek. I actually invited one of my students to co-present with me, and then we're going to do a night hike and sit by the waterfalls

31
00:06:15.480 --> 00:06:21.500
Michelle Wooten she/her: and listen to them at night in the dark together, and then do some stargazing afterwards. So

32
00:06:21.949 --> 00:06:30.780
Michelle Wooten she/her: you might think about how you partner with your local communities. Once you have a little knowledge, you get to share it with other people so.

33
00:06:30.920 --> 00:06:31.920
Michelle Wooten she/her: and

34
00:06:33.130 --> 00:06:42.080
Michelle Wooten she/her: to get that knowledge I will help you. I'm going to start by sharing my journey to Dark sky advocacy, and then I will talk about dark sky

35
00:06:42.340 --> 00:06:50.510
Michelle Wooten she/her: and responsible outdoor lighting basics that should help equip you to go. Do great education in your community.

36
00:06:51.332 --> 00:07:01.050

Michelle Wooten she/her: And then I wanted to share with you about how you can network with your campus and about the new campus shine initiative.

37
00:07:03.400 --> 00:07:13.969
Michelle Wooten she/her: So I wanted to ask if you would write in the chat without having maybe thought about this too much. You probably already are doing things that help protect the night sky.

38
00:07:14.100 --> 00:07:17.530
Michelle Wooten she/her: and I just wanted to hear some ideas you could just

39
00:07:18.460 --> 00:07:21.070
Michelle Wooten she/her: put in the chat a quick note about something

40
00:07:21.390 --> 00:07:26.270
Michelle Wooten she/her: that you do that brings like appreciation or awareness for the night sky

41
00:07:26.450 --> 00:07:33.350
Michelle Wooten she/her: something you do around your house to protect the night. Just love to hear a few people write something in the chat.

42
00:07:44.360 --> 00:07:49.412
Michelle Wooten she/her: This presentation will be a little interactive. So I'm gonna wait till somebody writes something at least.

43
00:07:55.580 --> 00:07:58.170
Michelle Wooten she/her: Switch off the porch lights after dark.

44
00:07:59.860 --> 00:08:01.020
Michelle Wooten she/her: Wonderful!

45
00:08:09.050 --> 00:08:13.229
Michelle Wooten she/her: You're helping your institution. Get their upward facing lights pointed down.

46
00:08:14.523 --> 00:08:22.156
Michelle Wooten she/her: Yeah, drag your friends outside on clear nights to point out the constellations. Excellent! Those are all excellent ways to help

47
00:08:22.800 --> 00:08:23.969
Michelle Wooten she/her: protect the night.

48
00:08:26.150 --> 00:08:41.959
Michelle Wooten she/her: So I wanted to share a little bit about my journey. I grew up in Southern California, in the decade that I grew up. The lighting was primarily something called high pressure sodium, like the street lights, which were very orangey in color.

49
00:08:42.120 --> 00:08:47.820
Michelle Wooten she/her: and that orangey color scattered throughout the atmosphere and made it very hard to see the stars.

50
00:08:48.100 --> 00:08:52.289
Michelle Wooten she/her: and probably I could see about 5 stars every night

51
00:08:52.440 --> 00:08:58.909
Michelle Wooten she/her: from where I lived. And yeah, I still like developed a grand fascination with them, as I'm sure all of you have.

52
00:08:59.467 --> 00:09:10.559
Michelle Wooten she/her: So I really wanted to see more stars. But we, my family, had to drive me out like to the desert to learn the constellations. I learned them at Joshua Tree National Park when I was about 13 years old.

53
00:09:12.526 --> 00:09:20.789
Michelle Wooten she/her: Move forward a couple decades or so, and I've landed a faculty position at a university.

54
00:09:20.910 --> 00:09:22.989
Michelle Wooten she/her: and I'm able to buy my own house.

55
00:09:23.410 --> 00:09:28.529
Michelle Wooten she/her: And I was thinking, you know, I'm pretty excited. I'm like in this.

56
00:09:29.250 --> 00:09:48.939
Michelle Wooten she/her: like there's a kind of like a stereotype about. And maybe some of it's very factual, too, that women in their thirties and their forties. They just like love to buy stuff, and I was excited about lighting my house outside and inside, and showing off just how pretty it was.

57
00:09:49.425 --> 00:09:51.700
Michelle Wooten she/her: At the same time I was teaching

58
00:09:52.090 --> 00:10:00.779
Michelle Wooten she/her: hundreds of students every semester about the night sky, and asking them to do assignments outside to learn the night sky.

59
00:10:01.270 --> 00:10:11.290
Michelle Wooten she/her: So at some point I realized, Wow, I'm really not practicing what I preach because I want them to be able to see the night sky yet. I'm kind of contributing to the problem that's inhibiting their view.

60
00:10:11.440 --> 00:10:23.460
Michelle Wooten she/her: So within a few months of putting everything up, I actually took it all down. I'm not going to tell you what I did with it, but those lights are no longer up.

61
00:10:24.960 --> 00:10:32.380
Michelle Wooten she/her: so I'm going to share with you some basics about light pollution, and what happens when light is not used properly at night.

62
00:10:32.780 --> 00:10:54.630
Michelle Wooten she/her: So let's look at the example. Image on, or graphic on the right. We have this luminaire. Notice that it's shining light in every direction. So some of it's going straight up into the sky. What is in the sky that needs light up here. Nothing right down here is just in this area is the useful light, like we want it to light our pathway.

63
00:10:55.197 --> 00:11:01.100

Michelle Wooten she/her: If we have a luminary that is too tall, it's like creating glare for people on the sidewalk.

64
00:11:01.350 --> 00:11:09.120
Michelle Wooten she/her: If it's shining into people's homes. Wow! That's really not going where it's supposed to go, and it's impacting their health.

65
00:11:09.500 --> 00:11:23.690
Michelle Wooten she/her: Notice that light also scatters off the sidewalk and also reflects down off the cloud. So there's a lot to learn about lighting and where it goes, and a lot to be mindful of when we're lighting the night responsibly.

66
00:11:24.990 --> 00:11:30.850
Michelle Wooten she/her: So why should we even care, though, I mean, besides, the night sky well, light pollution is bad for human health.

67
00:11:31.090 --> 00:11:44.049
Michelle Wooten she/her: for human safety, waste, money, and energy like that light going up into space is all of our tax dollars, right? Or your own personal money going? Not where it's needed.

68
00:11:44.754 --> 00:12:07.049
Michelle Wooten she/her: Of course it doesn't help astronomers any, and it's bad for our natural environment around us. So why is that so? All life evolved under predictable cycles of day and night? We're supposed to, or we used to experience the bright sunlight of the day like every day.

69
00:12:07.854 --> 00:12:16.749
Michelle Wooten she/her: And then at night we were. We were experiencing the dark dark of night, but something has changed.

70
00:12:17.140 --> 00:12:27.659
Michelle Wooten she/her: This is a graphic where the Y-axis is level of light on a log scale, from starlight, very faint near the bottom to full sunlight at the top.

71
00:12:27.920 --> 00:12:33.810

Michelle Wooten she/her: and then on the X-axis we have from midnight to noon to midnight again.

72
00:12:34.080 --> 00:12:36.589
Michelle Wooten she/her: and that blue curve is showing you

73
00:12:37.090 --> 00:12:42.510
Michelle Wooten she/her: what we naturally experienced when we were more of an outdoor species.

74
00:12:42.830 --> 00:12:52.069
Michelle Wooten she/her: Now that we're more of an indoor species. Gee, what do you notice at nighttime we're experiencing much brighter light.

75
00:12:52.320 --> 00:12:57.220
Michelle Wooten she/her: and during the daytime we're experiencing much less light.

76
00:12:58.040 --> 00:12:59.839
Michelle Wooten she/her: Why do you think that is

77
00:13:00.980 --> 00:13:10.300
Michelle Wooten she/her: because we are indoors mostly. So the lighting in this room that I'm in is much dimmer or fainter than it would be if I were outside.

78
00:13:10.560 --> 00:13:16.880
Michelle Wooten she/her: For the most part I know some of us are experiencing cloudy, stormy weather right now at home.

79
00:13:17.390 --> 00:13:25.970
Michelle Wooten she/her: So, in terms of astronomy, the effects of light pollution were recently published in science. You know the Holy Grail Journal. Look at this a whole issue

80
00:13:26.170 --> 00:13:28.380
Michelle Wooten she/her: of light pollution in science.

81
00:13:30.750 --> 00:13:50.880
Michelle Wooten she/her: citizen scientists, people from the general public, astronomers alike. They were taking measurements of light pollution, and they found that over a 10 year period there was a 10% yearly increase in sky brightness as a result of artificial light at night. So the problem was getting even worse.

82
00:13:51.605 --> 00:13:56.610
Michelle Wooten she/her: We get to see fewer stars than we ever did before.

83
00:13:57.836 --> 00:14:05.669
Michelle Wooten she/her: This is called the Bordel scale, and it's a way that people. Astronomers like measure the level of darkness where you live.

84
00:14:06.890 --> 00:14:10.949
Michelle Wooten she/her: And I'm going to put this link in the chat.

85
00:14:11.250 --> 00:14:18.400
Michelle Wooten she/her: It's a website. I would encourage you to go even now, like maybe while you're listening to me, and

86
00:14:21.210 --> 00:14:25.690
Michelle Wooten she/her: what's cool about it is, you can enter your hometown into the search bar

87
00:14:25.850 --> 00:14:40.400
Michelle Wooten she/her: and find out, how does light pollution where you are compared to places nearby you can actually find the dark sky observing sites near you by looking for darker, bluer places.

88
00:14:40.965 --> 00:14:51.650
Michelle Wooten she/her: Here's my hometown of Birmingham, and you could see that near the city center. It's very white that's white is representing more light polluted

89
00:14:52.250 --> 00:14:55.760
Michelle Wooten she/her: and then again, the bluer areas are less like polluted.

90
00:14:55.920 --> 00:15:07.210
Michelle Wooten she/her: So yeah, I've actually found some really great stargazing places using that map. But you can also use this map to like track. How like pollution is changing over time from a satellite perspective.

91
00:15:11.459 --> 00:15:16.499
Michelle Wooten she/her: Remember, I talked about the Bortle scale. The bortle scale for

92
00:15:17.170 --> 00:15:25.289
Michelle Wooten she/her: Birmingham. You can see right on this satellite data point. It says that it's a class 8 to 9. So that's about as bad as you could get.

93
00:15:27.770 --> 00:15:31.800
Michelle Wooten she/her: Let's now talk about impacts on human and environmental health.

94
00:15:33.720 --> 00:15:43.070
Michelle Wooten she/her: So let's talk about human health first, st you've probably heard that like looking at your phone or your screens at night isn't good for you.

95
00:15:43.240 --> 00:15:52.960
Michelle Wooten she/her: It turns out that bluer wavelengths of light. When they enter your eye they suppress melatonin production.

96
00:15:54.250 --> 00:16:00.919
Michelle Wooten she/her: You might hear that word that name of a hormone. You can buy it at the store to help you sleep right.

97
00:16:01.030 --> 00:16:10.749
Michelle Wooten she/her: But another way you can help your body produce. Melatonin naturally is by keeping it dark at night. So in your house, dimming the lights.

98
00:16:10.850 --> 00:16:14.569
Michelle Wooten she/her: using more amber or warmer color tones of light.

99
00:16:14.690 --> 00:16:21.379
Michelle Wooten she/her: that blue light is the wavelength of light that inhibits your melatonin production.

100
00:16:21.480 --> 00:16:28.350
Michelle Wooten she/her: Did you know that regular exposure to blue light at night is correlated with many different kinds of diseases

101
00:16:28.880 --> 00:16:33.930
Michelle Wooten she/her: like cancer obesity, hypertension.

102
00:16:34.180 --> 00:16:42.000
Michelle Wooten she/her: There's so much research on this that the American Medical Association in 2016 produced a report.

103
00:16:42.270 --> 00:16:47.770
Michelle Wooten she/her: and it's likened the regular exposure of light pollution

104
00:16:48.422 --> 00:16:51.940
Michelle Wooten she/her: a carcinogen equal in weight to smoking.

105
00:16:52.080 --> 00:16:53.069
Michelle Wooten she/her: So

106
00:16:54.570 --> 00:17:03.449
Michelle Wooten she/her: If you're like a shift worker, and you're just like always being bombarded by light at night. It's going to be as bad for your health as

107
00:17:03.730 --> 00:17:05.110
Michelle Wooten she/her: smoking cigarettes.

108
00:17:06.849 --> 00:17:09.420
Michelle Wooten she/her: Light pollution is also bad for wildlife.

109
00:17:10.147 --> 00:17:18.919
Michelle Wooten she/her: It really like disrupts wildlife's natural patterns like pollination and predation.

110
00:17:20.300 --> 00:17:26.110
Michelle Wooten she/her: Here's almost every like species studied has been shown to be affected by light pollution.

111
00:17:28.892 --> 00:17:33.869
Michelle Wooten she/her: So, in other words, they don't want it either. I'm going to give you a specific example.

112
00:17:34.900 --> 00:17:43.059
Michelle Wooten she/her: So when birds are flying on their migration routes, as they do every year in the spring.

113
00:17:43.190 --> 00:17:46.330
Michelle Wooten she/her: they fly northward. In the fall they fly south.

114
00:17:46.963 --> 00:17:51.000
Michelle Wooten she/her: They're used to using the natural night sky to navigate.

115
00:17:51.310 --> 00:18:11.120
Michelle Wooten she/her: and when we have bright city lights pointing up into their path, they actually get distracted by light. It's not a phenomenon really well understood, but they can't see the starlight as well, and they're attracted to the city lights, so they'll just start encircling buildings and eventually collide with them

116
00:18:11.330 --> 00:18:14.560
Michelle Wooten she/her: and die mostly from hitting windows.

117
00:18:15.090 --> 00:18:22.029
Michelle Wooten she/her: I'm sad to point it out, but if you notice the backdrop on the screen. There's a lot of dead birds there.

118
00:18:22.420 --> 00:18:42.539
Michelle Wooten she/her: This was all from one morning when a city was really frustrated with the amount of birds that light pollution was causing there. So they collected all the carcasses in one morning and put them in this display, and it helped incentivize that city to adopt a lighting ordinance.

119
00:18:42.990 --> 00:18:51.180
Michelle Wooten she/her: such that the city is dark skies during migration season, so that means they shut off their lights on the big buildings at 11 Pm.

120
00:18:51.440 --> 00:18:55.570
Michelle Wooten she/her: And then only turn them on again at 6 am.

121
00:18:58.480 --> 00:19:08.369
Michelle Wooten she/her: Gnarly, that trees and plants also produce melatonin, so they also use this to regulate their circadian rhythm.

122
00:19:08.500 --> 00:19:23.130
Michelle Wooten she/her: And you can notice on this left hand image this light is totally tricking this tree. It cannot be good for this tree. This tree is holding on to the leaves, thinking that it's still like summertime over here, or whatever, and it's not dropping them.

123
00:19:23.320 --> 00:19:39.989
Michelle Wooten she/her: Trees actually do need to lose their leaves to go through their whole annual cycle. It's important to their health. Look at the slide over here on the right, totally tricking the plants in this area to keep on growing even past their time.

124
00:19:42.705 --> 00:19:53.590
Michelle Wooten she/her: So a lot of people say, Well, that's good and fine, like, I understand, light impacts the environment. But don't we need it for safety.

125
00:19:53.800 --> 00:20:01.750
Michelle Wooten she/her: And I just want you to examine these 2 photos right here in the left hand side we have a light that is shining light everywhere.

126

00:20:02.120 --> 00:20:06.840
Michelle Wooten she/her: Do you notice that it's creating high contrast between light and dark?

127
00:20:07.030 --> 00:20:10.179
Michelle Wooten she/her: It makes it hard for your eye to see the surroundings

128
00:20:10.650 --> 00:20:17.169
Michelle Wooten she/her: and so on the right hand side. When the person puts their hand over the light they can see their surroundings much better.

129
00:20:18.330 --> 00:20:26.979
Michelle Wooten she/her: And so this kind of tells you that maybe it's not all light that is safer at night. Maybe it's some kind of light.

130
00:20:28.010 --> 00:20:51.099
Michelle Wooten she/her: so the things that make light safer at night are also what make it better for stars. So a really bad light is blinding you from seeing the natural environment. These in the middle, we have some things called partial shields. They don't prevent all the light from getting out the side, so they still shine up into the atmosphere.

131
00:20:51.310 --> 00:20:58.539
Michelle Wooten she/her: Over here we have lights with a full shield. They completely cover the light bulb and reduce glare.

132
00:20:59.220 --> 00:21:03.360
Michelle Wooten she/her: so people can walk around without having a light blasting in their face.

133
00:21:06.970 --> 00:21:09.541
Michelle Wooten she/her: So I wanted to ask you,

134
00:21:10.260 --> 00:21:23.229
Michelle Wooten she/her: considering these couple of like concepts that I've just shared with you about shielding and safety. Which of the following are principles of responsible outdoor lighting at night like

135

00:21:24.561 --> 00:21:31.789
Michelle Wooten she/her: if you were to choose a few, do they think they're all important, or just some of them.

136
00:21:45.340 --> 00:21:51.000
Michelle Wooten she/her: all of the above and definitely using shields. Yeah, shielding is actually the most important

137
00:21:51.390 --> 00:22:02.760
Michelle Wooten she/her: after just using a light, if it's needed. So there's no point in having a shield of light on in the middle of a field, or a dim light in the middle of a field, that

138
00:22:03.040 --> 00:22:14.369
Michelle Wooten she/her: it's not for anyone's purpose. So 1st we want to make sure light is only in places where it's going to be useful. And then, yeah, put that shield on it. Make sure it's only pointing down.

139
00:22:14.620 --> 00:22:16.330
Michelle Wooten she/her: You want to dim it.

140
00:22:16.510 --> 00:22:30.230
Michelle Wooten she/her: use control. So it's only on when it's needed. And then those warmer colors again won't inhibit melatonin production that also a lot of animals and plants use to regulate their circadian rhythm.

141
00:22:32.580 --> 00:22:39.470
Michelle Wooten she/her: So here's a very similar graphic to the one I just showed you. It just has all of the 5 Principles. Shown.

142
00:22:40.732 --> 00:22:53.060
Michelle Wooten she/her: From worse. We have that unshielded light that's more bluer in color. But then we move to shielded lights. The best lights are ones that are on timer timers shielded and warmer and dimmer.

143
00:22:56.510 --> 00:23:02.676
Michelle Wooten she/her: Okay, so where do you find dark sky approved lighting?

144
00:23:03.970 --> 00:23:16.089
Michelle Wooten she/her: you can actually go to the store. So like Home Depot or Lowe's. And you want to look for this symbol on the light to know that it's an approved light. But I've definitely seen that symbol in my retailer.

145
00:23:16.638 --> 00:23:24.719
Michelle Wooten she/her: You can also go to this website, and you can search by like type of lighting or by the retailer to find a light that works for you.

146
00:23:25.350 --> 00:23:29.409
Michelle Wooten she/her: Pretty cool. That dark Sky International has done all this hard work for you

147
00:23:30.260 --> 00:23:31.910
Michelle Wooten she/her: and for me and for us.

148
00:23:33.750 --> 00:23:43.440
Michelle Wooten she/her: Okay, so I want to talk to you more about my work at Uab. Just so you you've learned like dark sky basics. So how did I start incorporating these at Uab?

149
00:23:43.640 --> 00:23:52.360
Michelle Wooten she/her: So the 1st thing I did was I adopted the practices of the dark sky community. So I'm going to just drag a window over here real quick.

150
00:23:52.520 --> 00:23:55.350
Michelle Wooten she/her: I'm going to go to darksky.org.

151
00:23:57.020 --> 00:23:59.860
Michelle Wooten she/her: Can you still see my screen with the.

152
00:24:01.350 --> 00:24:03.060
Katherine Lee: Yep, we can see it just fine.

153

00:24:03.680 --> 00:24:08.929
Michelle Wooten she/her: Cool. So we're gonna go so who we are. And then we're gonna go to advocates.

154
00:24:09.280 --> 00:24:24.850
Michelle Wooten she/her: So this is where I started. I was like, I'm I'm actually really excited about this. I want to. I want to help my students like make a difference in their community. And I was thinking about ways that I could work with them. So I wanted to get ideas from other advocates around the world.

155
00:24:25.458 --> 00:24:28.650
Michelle Wooten she/her: So you can click on. Learn more here.

156
00:24:29.306 --> 00:24:33.280
Michelle Wooten she/her: And then sign up to be an advocate.

157
00:24:34.586 --> 00:24:42.630
Michelle Wooten she/her: Once you sign up, you get some education, you get invited to a dark sky worldwide, slack channel

158
00:24:42.950 --> 00:24:49.720
Michelle Wooten she/her: in which you can ask people all over the world your questions. I cannot tell you how helpful that resource has been.

159
00:24:49.970 --> 00:24:55.329
Michelle Wooten she/her: So just go to who we are, and then advocates great place to start.

160
00:24:56.239 --> 00:25:10.530
Michelle Wooten she/her: So after I learned some things from the community, I wanted to see what would happen if I tried them out in my community. So you know, I'm an astronomy educator. I really loved seeing on the slack channel like what people are doing with art in their community like they would host

161
00:25:11.180 --> 00:25:21.859
Michelle Wooten she/her: like during international Dark Sky Week, making art at like a coffee shop or having people display their dark sky artwork at a coffee shop.

162
00:25:22.460 --> 00:25:50.970
Michelle Wooten she/her: I was like, you know, what? I have really good friends in the local Astronomy Club. Maybe they'd be willing to give me their magazines that they're old and not using anymore. And students, I had them like, just connect their love of the night sky on old bottles that I collected. So I was just helping them like appreciate the night sky rather than just like always dumping knowledge on them like, how could they explore their appreciation of the night on these bottles.

163
00:25:53.778 --> 00:26:03.109
Michelle Wooten she/her: I also incorporated an activity into my class called Globe at night. This one you can even do tonight. If you're in a clear

164
00:26:03.380 --> 00:26:04.310
Michelle Wooten she/her: place.

165
00:26:05.990 --> 00:26:08.109
Michelle Wooten she/her: I'm gonna go here as well.

166
00:26:08.830 --> 00:26:31.020
Michelle Wooten she/her: I'm just going to show you the globe at night activity. So you know, when you become an astronomy, Professor, someday, or lead a night sky activity at your local park, you might consider doing this activity. This is the activity that led to that science publication about increase of 10% per year in light pollution across the globe.

167
00:26:31.810 --> 00:26:39.949
Michelle Wooten she/her: So what you do is you have to only do a light pollution observation on a new moon week like this week.

168
00:26:40.847 --> 00:26:51.540
Michelle Wooten she/her: So they've already got all those weeks lined up for you. So the left hand column is the northern hemisphere. So if you and I were going out tonight we would look for Leo the Lion.

169
00:26:52.038 --> 00:26:57.999

Michelle Wooten she/her: But these are all the new moon weeks, and depending on which time of the year it is you're looking for a different constellation.

170
00:26:59.140 --> 00:27:04.720
Michelle Wooten she/her: All right. So let's say we're outside. We've let our eyes adjust to the dark, and we found a Leo

171
00:27:05.287 --> 00:27:15.139
Michelle Wooten she/her: now we're going to go to the report page and we might be on our phone. What's interesting is like, if you're doing this at night, this whole screen turns red.

172
00:27:15.270 --> 00:27:20.310
Michelle Wooten she/her: It's just programmed to reduce the amount of blue light you're receiving.

173
00:27:20.680 --> 00:27:24.680
Michelle Wooten she/her: So you want to say the time you're making your observation the place.

174
00:27:25.290 --> 00:27:32.215
Michelle Wooten she/her: So I might type in Uab or Birmingham, Alabama, and

175
00:27:33.380 --> 00:27:49.249
Michelle Wooten she/her: Then, if I had a meter, a sky quality meter. I would put the reading in here. But you don't have to. Once you find Leo, you are just going to put like, how many stars can you see in the constellation of Leo?

176
00:27:49.510 --> 00:27:50.450
Michelle Wooten she/her: Aha!

177
00:27:50.800 --> 00:27:59.870
Michelle Wooten she/her: Now we'd all love to be on a ship in the ocean and see this many stars, but more likely, if you're like me in a city, you're seeing more like this many stars.

178
00:28:00.060 --> 00:28:10.110

Michelle Wooten she/her: So the goal is to take measurements throughout the year at the same location to help the worldwide community know how light pollution is changing in your location.

179
00:28:10.650 --> 00:28:14.839
Michelle Wooten she/her: You just mark how cloudy it is and then submit your data.

180
00:28:15.450 --> 00:28:20.910
Michelle Wooten she/her: So when I go back to my Powerpoint screen.

181
00:28:22.565 --> 00:28:36.099
Michelle Wooten she/her: I had an these I put in my library on reserve for checkout. The sky quality meters that students could hold in their hand and collect that Sqm. Measurement that they would put into globe at night.

182
00:28:37.090 --> 00:28:44.150
Michelle Wooten she/her: So library is a really cool place. Your campus library to like stick things that you want things people to check out for free.

183
00:28:45.136 --> 00:28:48.940
Michelle Wooten she/her: So just so you can see this is the state of Alabama.

184
00:28:49.050 --> 00:28:56.119
Michelle Wooten she/her: and Birmingham is right. Near the middle 2020 was before I was hired. But you can see how many people

185
00:28:56.290 --> 00:29:03.229
Michelle Wooten she/her: are taking measurements these days. This is just in one semester, many more people taking measurements

186
00:29:03.490 --> 00:29:05.119
Michelle Wooten she/her: being a part of my class.

187
00:29:07.580 --> 00:29:09.300
Michelle Wooten she/her: Again doing night hikes

188
00:29:12.201 --> 00:29:29.880
Michelle Wooten she/her: as Catherine mentioned, I started a dark sky international chapter. So there wasn't 1 in the southeastern United States, even though, like a lot of chapter, a lot of states around the country had a dark sky. Chapter. So

189
00:29:30.180 --> 00:29:35.170
Michelle Wooten she/her: the local, many local, like astronomy, club members and groups

190
00:29:35.780 --> 00:29:39.440
Michelle Wooten she/her: like people in conservation groups joined.

191
00:29:39.610 --> 00:29:44.719
Michelle Wooten she/her: And we do things like tabling at astronomy events, or birding events.

192
00:29:44.850 --> 00:30:03.570
Michelle Wooten she/her: and also meeting up for coffee. So this woman right here, she and her husband created night sky coffee roasters in Georgia, and that's in Winder, Georgia. So they're working with their local officials on hopefully getting a lighting ordinance in place. That's dark sky friendly.

193
00:30:03.840 --> 00:30:09.290
Michelle Wooten she/her: And so it's really cool to work with all these different people who care about the night across the southeast.

194
00:30:11.654 --> 00:30:13.225
Michelle Wooten she/her: I also started

195
00:30:14.180 --> 00:30:22.290
Michelle Wooten she/her: volunteering for Alabama, Audubon, because remember how birds are impacted by light pollution at night. I was like wondering how

196
00:30:23.128 --> 00:30:30.160
Michelle Wooten she/her: dark sky advocates could connect with their Audubon societies to work together to make change.

197
00:30:30.320 --> 00:30:40.779
Michelle Wooten she/her: And so one thing that the birding community really cares about is getting these dots on the windows, because if if there's dots on the windows. Birds can see them much better.

198
00:30:40.960 --> 00:30:44.629
Michelle Wooten she/her: and probably won't collide and hit with them. Hit them.

199
00:30:45.500 --> 00:30:53.049
Michelle Wooten she/her: So the goal is to get data with Alabama Audubon on. How many birds are hitting windows? It's

200
00:30:53.310 --> 00:31:07.530
Michelle Wooten she/her: there's a project that they use called Project Safe Light, where volunteers go out in the morning and actually look for dead bird carcasses. But then you can use that data to incentivize building owners to change their practices like shut off their lights at night

201
00:31:07.930 --> 00:31:19.779
Michelle Wooten she/her: and put up these stickers. Yeah, it's a really awesome collaboration. What happened is, they actually invited me to be on their board of directors. So that's really cool. So we'll keep the connection up.

202
00:31:20.240 --> 00:31:21.590
Michelle Wooten she/her: Also.

203
00:31:22.080 --> 00:31:47.279
Michelle Wooten she/her: I followed in my mom's, but this is not my mom, but my mom is a master gardener, and after I learned that like light pollution affects plants, I was like, well, I could, you know, have a great time getting to know my mom better by becoming a master gardener, and then that would open my ability to like talk to more garden people about how they're using lighting in their gardens.

204
00:31:47.460 --> 00:31:54.110
Michelle Wooten she/her: And so, yeah, I've I've already given 2 presentations this year to garden clubs, and I have one more coming up next week.

205
00:31:54.761 --> 00:32:01.439
Michelle Wooten she/her: So I'm really grateful to be certified. Now I feel like I have the credentials to actually say something.

206
00:32:02.870 --> 00:32:12.169
Michelle Wooten she/her: Okay. So overall. Internationally, at this point, a couple years in I've joined Stark International's Technical Committee.

207
00:32:12.791 --> 00:32:23.219
Michelle Wooten she/her: Now, on our favorite organization, American Astronomical Society, I'm on the Compass Committee, which is the Committee for the Protection of Astronomy in the Space environment.

208
00:32:23.350 --> 00:32:28.279
Michelle Wooten she/her: This next year I'll actually be stepping into a leadership role in that committee.

209
00:32:29.151 --> 00:32:35.480
Michelle Wooten she/her: So I'd love it if someday you want to join the committee. We need as many people as we can like

210
00:32:35.750 --> 00:32:41.070
Michelle Wooten she/her: working on this effort. And then, locally, I lead this dark sky chapter

211
00:32:43.200 --> 00:32:49.340
Michelle Wooten she/her: compass. There's a subset of us that are on campuses. So we created campus shine.

212
00:32:49.920 --> 00:32:51.600
Michelle Wooten she/her: And I'll just put that

213
00:32:54.220 --> 00:33:03.139
Michelle Wooten she/her: link in the chat where we have a bunch of resources for people like that, you and I, that are probably on campuses like, how do we work with our campuses

214
00:33:03.420 --> 00:33:05.590
Michelle Wooten she/her: to become more dark sky? Friendly?

215
00:33:08.637 --> 00:33:13.590
Michelle Wooten she/her: Here's the people. On that campus shine a subgroup of compass.

216
00:33:14.290 --> 00:33:24.259
Michelle Wooten she/her: Not all of us are astronomers, so Nancy is a lighting designer, and Rochelle is an environmental science educator. Professor.

217
00:33:26.036 --> 00:33:29.830
Michelle Wooten she/her: So from the campus shine effort, I made campus shine at Uab.

218
00:33:30.780 --> 00:33:34.729
Michelle Wooten she/her: And this is a logo that one of the students who works with me created.

219
00:33:36.820 --> 00:33:54.680
Michelle Wooten she/her: Okay. So after I started to integrate some of my things, I learned from the dark sky advocacy community. I wanted to see how I could help students make meaningful contributions towards safe and healthy changes in campus lighting like it. Sounds like some of you are

220
00:33:56.010 --> 00:34:08.389
Michelle Wooten she/her: so. I was just wondering, like if you were to go go somewhere for help on your campus, on how to get an initiative started like, who would you go to? You can just type A, BCD, or E,

221
00:34:25.340 --> 00:34:27.249
Michelle Wooten she/her: I have a vote for B.

222
00:34:40.489 --> 00:34:43.699
Michelle Wooten she/her: Someone says, none of these, institution's leadership.

223

00:34:45.949 --> 00:34:51.069
Michelle Wooten she/her: Yeah, not all. Yeah. You're right. Not all campuses have a sustainability group.

224
00:34:53.040 --> 00:35:05.009
Michelle Wooten she/her: and some of us on campus shine have gone straight to leadership and gotten their like President to sign off on the 5 principles of responsible outdoor lighting. But I decided to go to sustainability first.st

225
00:35:06.610 --> 00:35:11.990
Michelle Wooten she/her: So in 2022, I met with them, and they said they met with their higher ups.

226
00:35:12.590 --> 00:35:18.460
Michelle Wooten she/her: and the higher ups were like saying, No, like, we're not. Gonna

227
00:35:18.630 --> 00:35:22.259
Michelle Wooten she/her: we'll work with you sustainability on other issues, but not lighting

228
00:35:22.814 --> 00:35:26.790
Michelle Wooten she/her: so I got that kind of message, and I felt depressed. For a year.

229
00:35:27.350 --> 00:35:28.970
Michelle Wooten she/her: I really did.

230
00:35:29.620 --> 00:35:54.259
Michelle Wooten she/her: But in that same semester I adopted a mentor in mechanical engineering like our school had this program where they try to match people who've been at the university for a long time with new faculty. So you could get some like mentors, you know, help and just doing your job. Well. So I like this guy because he was doing work on like teaching science through

231
00:35:54.731 --> 00:36:00.029
Michelle Wooten she/her: issues of race. And I I felt like I could really grow in that area. So

232

00:36:00.190 --> 00:36:01.719
Michelle Wooten she/her: he was super helpful.

233
00:36:02.030 --> 00:36:10.870
Michelle Wooten she/her: And then on the slack channel for dark sky. I read about University of Utah's Student Drone Project. So I had about a year, and my wheels were spinning.

234
00:36:13.450 --> 00:36:22.110
Michelle Wooten she/her: One year later I met with facilities and sustainability to discuss a drone project at Uav, just like University of Utah, had done

235
00:36:22.260 --> 00:36:28.510
Michelle Wooten she/her: so. The idea with the Drone project is, if you're measuring like an urban campus has so many lights.

236
00:36:28.760 --> 00:36:39.990
Michelle Wooten she/her: and if you're measuring light pollution from the ground, you're going to be getting scatter from individual lights like. There's no way to get far enough away from the lights that you're not getting

237
00:36:40.300 --> 00:36:42.880
Michelle Wooten she/her: a direct measurement of the light itself.

238
00:36:43.070 --> 00:36:49.210
Michelle Wooten she/her: so a drone can fly into the air and get this scatter of light above the luminaires. That's like

239
00:36:49.800 --> 00:36:51.930
Michelle Wooten she/her: just the general light scatter.

240
00:36:53.964 --> 00:37:03.219
Michelle Wooten she/her: So what happened is that they allowed me to propose an undergraduate Senior capstone project in engineering

241
00:37:03.430 --> 00:37:08.420

Michelle Wooten she/her: where the engineering students would build a drone with a sky quality meter attached.

242
00:37:10.090 --> 00:37:18.850
Michelle Wooten she/her: So in spring 2024 the drone flew, and you could see the undergraduate senior students presenting their work.

243
00:37:19.720 --> 00:37:32.770
Michelle Wooten she/her: Very, very exciting. Now we can go out like every quarter and measure how light pollution is changing above our campus and seeing if it goes down over time, as we maybe use better lighting practices.

244
00:37:33.958 --> 00:37:36.940
Michelle Wooten she/her: Then I had some like confidence, right? Because I done

245
00:37:37.180 --> 00:37:40.610
Michelle Wooten she/her: started something like this was starting to gain traction.

246
00:37:40.780 --> 00:37:50.629
Michelle Wooten she/her: So here are some people in facilities who gave us these polls here. I don't know if any of you have ever seen one of these. They're called a Trimble.

247
00:37:50.740 --> 00:38:04.169
Michelle Wooten she/her: and they can help you geolocate things on campus. It turns out that our Facilities department had the most outdated map of lighting on campus. It was like 10 years old.

248
00:38:04.530 --> 00:38:06.130
Michelle Wooten she/her: so they said, Hey.

249
00:38:06.250 --> 00:38:17.470
Michelle Wooten she/her: if you can help us map the lighting. You could also take data in the same data collection portal on like how dark sky friendly the light is.

250
00:38:18.660 --> 00:38:26.939

Michelle Wooten she/her: So that summer I began the campus shine lab, and the goal was to measure the location of all the lights

251
00:38:28.020 --> 00:38:31.989
Michelle Wooten she/her: and take data on how dark sky! Friendly they are.

252
00:38:33.490 --> 00:38:34.420
Michelle Wooten she/her: Again.

253
00:38:35.470 --> 00:38:45.899
Michelle Wooten she/her: facilities had one interest, and campus shine had another like we wanted to measure level of shielding color, temperature and the brightness of the light.

254
00:38:46.050 --> 00:38:49.270
Michelle Wooten she/her: to see if they were in range of recommendations.

255
00:38:50.945 --> 00:39:05.189
Michelle Wooten she/her: So here's this $40 meter, the oppel meter that you can get off the off of Amazon, or I don't know if you can get it anywhere but Amazon. Sorry. But it measures the level of light

256
00:39:05.530 --> 00:39:13.750
Michelle Wooten she/her: from a pathway, and you're trying to see if that level of light and looks is

257
00:39:13.870 --> 00:39:19.560
Michelle Wooten she/her: good with the recommended recommended values by the Illuminating Engineering Society.

258
00:39:20.511 --> 00:39:28.739
Michelle Wooten she/her: and the Illuminating Engineering Society wrote co-wrote the 5 principles of responsible outdoor lighting. So everybody's on the same page here.

259
00:39:29.160 --> 00:39:33.130
Michelle Wooten she/her: and you can also see it has the temperature of the light right here.

260
00:39:33.778 --> 00:39:39.479
Michelle Wooten she/her: For the amber colors that dark sky recommends is under 3,000 kelvin.

261
00:39:39.600 --> 00:39:45.449
Michelle Wooten she/her: So whatever light was being measured right here was above that, and is not a good color light.

262
00:39:46.630 --> 00:39:57.910
Michelle Wooten she/her: So here's what the actual data collection in the Gis platform looked like you type in your name, which group you're collecting from the date and time, you're collecting data.

263
00:39:59.260 --> 00:40:02.969
Michelle Wooten she/her: Is it actually a light that's there.

264
00:40:03.250 --> 00:40:13.279
Michelle Wooten she/her: or is, do we have too many points representing one light is the light working? What's it made of? And then here's the more campus science stuff like, does it

265
00:40:13.460 --> 00:40:15.790
Michelle Wooten she/her: have a full or partial shield?

266
00:40:16.827 --> 00:40:20.329
Michelle Wooten she/her: What met meter are you measuring with. And

267
00:40:20.520 --> 00:40:26.320
Michelle Wooten she/her: what are the values of brightness and color that you get for again, color should be under 3,000

268
00:40:26.780 --> 00:40:29.430
Michelle Wooten she/her: to be more warmer and better for health.

269
00:40:30.990 --> 00:40:47.210

Michelle Wooten she/her: So I actually wrote a whole dark sky course that could help with this project, and it incorporates art, literature, and science. It's called City of Classroom. That's like a new effort at my campus to integrate student learning with their local community

270
00:40:47.360 --> 00:40:51.749
Michelle Wooten she/her: and students in the class did several service learning projects.

271
00:40:53.600 --> 00:40:57.520
Michelle Wooten she/her: I just wanted to show you some of the art that the students made

272
00:41:00.430 --> 00:41:02.390
Michelle Wooten she/her: from the literature that they read.

273
00:41:08.080 --> 00:41:16.389
Michelle Wooten she/her: They participated in project safe light. Another service learning project with Alabama Audubon to collect dead bird carcasses.

274
00:41:19.650 --> 00:41:24.000
Michelle Wooten she/her: and then they helped facilities by mapping all the locations of lights.

275
00:41:24.220 --> 00:41:28.070
Michelle Wooten she/her: and whether to what extent they were dark sky. Friendly?

276
00:41:30.911 --> 00:41:35.130
Michelle Wooten she/her: So whereas in summer, in the summer of 20

277
00:41:35.440 --> 00:41:39.469
Michelle Wooten she/her: 24, we had just like mapped this part of campus

278
00:41:41.540 --> 00:41:48.310
Michelle Wooten she/her: The class itself did much more of campus, so that one region I showed you it was just right in here.

279
00:41:48.831 --> 00:42:02.100

Michelle Wooten she/her: So the yellow dots are. The remaining yellow dots are all the ones that the students in my class did. So. They mapped a much larger part of campus. The red dots is like the old data set. So

280
00:42:03.080 --> 00:42:05.710
Michelle Wooten she/her: you can see what an improvement students made.

281
00:42:07.746 --> 00:42:15.483
Michelle Wooten she/her: I also had a couple of students come with me down to a park that wants to become an international dark sky place

282
00:42:16.110 --> 00:42:24.020
Michelle Wooten she/her: from an international dark sky place or park. You need to be able to see the Milky Way. So I took a picture of students looking at the Milky Way.

283
00:42:24.200 --> 00:42:27.840
Michelle Wooten she/her: and we were able to map all of the lighting that they had.

284
00:42:28.000 --> 00:42:30.970
Michelle Wooten she/her: and also whether they were dark sky. Friendly or not.

285
00:42:33.813 --> 00:42:50.920
Michelle Wooten she/her: And as a professor it's fun for me, like I'm a teaching professor. So I don't do research, my scholars. This, this is the scholarship and service part of my work. So I was just delighted to have like a course where students could actually present

286
00:42:51.090 --> 00:42:56.650
Michelle Wooten she/her: on data and analysis, that they had done during the course.

287
00:42:57.270 --> 00:43:01.389
Michelle Wooten she/her: It's just really exciting. These are undergraduates from like freshman to senior.

288
00:43:03.570 --> 00:43:11.090

Michelle Wooten she/her: And actually one group won the whole service learning category at our poster fair.

289
00:43:12.590 --> 00:43:21.690
Michelle Wooten she/her: So just as an overview, I'm almost finished here. In 2023 to 2024, we made possible the collection of sky quality.

290
00:43:23.254 --> 00:43:27.470
Michelle Wooten she/her: In the summer of 2024 I got to meet up with

291
00:43:27.960 --> 00:43:35.090
Michelle Wooten she/her: after that project, with facilities and my engineering mentor and a student.

292
00:43:35.420 --> 00:43:43.359
Michelle Wooten she/her: and we proposed yet another project which was making possible the improvement of sky quality. So we have all these glaring wall lights on campus.

293
00:43:43.810 --> 00:43:50.249
Michelle Wooten she/her: and this in this team of engineering students. From this year. They

294
00:43:51.230 --> 00:43:59.239
Michelle Wooten she/her: took measurements on all of the wall and ceiling lighting, and they were tasked with creating a flexible shield that would go over them

295
00:43:59.370 --> 00:44:01.840
Michelle Wooten she/her: to eliminate all the glare.

296
00:44:02.260 --> 00:44:09.560
Michelle Wooten she/her: So here's a little animation of the the prototype that they created.

297
00:44:20.300 --> 00:44:27.019
Michelle Wooten she/her: You can see all the pieces that make it flexible like. If the light is bigger, it can extend outward

298
00:44:27.520 --> 00:44:29.389
Michelle Wooten she/her: and almost any direction.

299
00:44:30.500 --> 00:44:46.179
Michelle Wooten she/her: So just earlier this week, the prototype was tested. So this is actually just 2 nights ago. This is the final like product. And you could just see how well that shield forces light to only go downward.

300
00:44:46.300 --> 00:44:50.860
Michelle Wooten she/her: and you can see the surroundings much better than if that light was glaring in your face.

301
00:44:51.950 --> 00:44:54.510
Michelle Wooten she/her: And here's the students constructing it.

302
00:44:55.040 --> 00:45:00.649
Michelle Wooten she/her: Finally, I'll just share, like another great connection, was working with graphic art students.

303
00:45:01.270 --> 00:45:09.879
Michelle Wooten she/her: to create light pollution. Educational posters that I can use in talks like these, and hopefully, that will be posted around campus to help

304
00:45:10.170 --> 00:45:14.399
Michelle Wooten she/her: other students learn about why it's important to keep our skies dark.

305
00:45:17.000 --> 00:45:23.310
Michelle Wooten she/her: so I'm just gonna skip ahead a few slides. I think the last thing I want to ask you is

306
00:45:26.980 --> 00:45:29.360
Michelle Wooten she/her: I know I have to switch settings here.

307
00:45:29.700 --> 00:45:43.030

Michelle Wooten she/her: so we've already talked about ways that you're already helping protect the night sky. I was just wondering if anything came up for you during this talk about how you might broaden your scope now that you've learned some

308
00:45:43.510 --> 00:45:50.990
Michelle Wooten she/her: new terms and projects like, what could you do even this week for dark international, dark Sky Week?

309
00:45:55.060 --> 00:45:59.469
Michelle Wooten she/her: Or what do you want to do next year over the academic year

310
00:46:03.746 --> 00:46:06.759
Michelle Wooten she/her: someone just joined the slack channel. That's fantastic.

311
00:46:24.930 --> 00:46:28.430
Michelle Wooten she/her: We've got a wide range of projects to talk to the local university.

312
00:46:28.700 --> 00:46:30.500
Michelle Wooten she/her: And they're lighting. That's great.

313
00:46:32.100 --> 00:46:32.910
Michelle Wooten she/her: Yeah.

314
00:46:33.010 --> 00:46:43.849
Michelle Wooten she/her: Audubon and other conservation organizations. Yeah, there's actually the advocacy community has like a basic Powerpoint presentation that you can learn to talk through

315
00:46:44.384 --> 00:46:48.949
Michelle Wooten she/her: actually, groups like libraries. They love to have people come speak.

316
00:46:49.090 --> 00:46:53.429
Michelle Wooten she/her: The State parks love to have people come speak. It seems like everybody, just like

317
00:46:53.830 --> 00:47:03.839
Michelle Wooten she/her: hurting for more programming, you know. So I think it's a great one that just a great way for you to get like volunteer hours, or like community service and

318
00:47:05.840 --> 00:47:08.730
Michelle Wooten she/her: great educating people holding lectures.

319
00:47:08.880 --> 00:47:09.660
Michelle Wooten she/her: Yeah.

320
00:47:09.850 --> 00:47:17.770
Michelle Wooten she/her: all right. Well, thank you so much. I'm going to stop my slideshow now, so I can just see all of you. Does anyone have any questions.

321
00:47:20.620 --> 00:47:25.670
Katherine Lee: Yeah. Feel free to type your questions in the chat, if you've got them. I'll read them out to our speaker.

322
00:47:33.608 --> 00:47:44.729
Katherine Lee: If nobody's got one yet. Then maybe I'll start I wanted to know because I I live in Europe and so I was wondering if you knew

323
00:47:44.860 --> 00:47:56.430
Katherine Lee: any of these kinds of resources translate internationally, or if, like, what kinds of efforts are happening in like collaboration between organizations in Europe and Asia and Africa, and the Us.

324
00:47:58.670 --> 00:47:59.220
Michelle Wooten she/her: Yes.

325
00:47:59.220 --> 00:48:00.109
Katherine Lee: If you know.

326
00:48:00.410 --> 00:48:11.240

Michelle Wooten she/her: Well, I know that there are active groups chapters all over the globe, so if I like.

327
00:48:11.440 --> 00:48:17.269
Michelle Wooten she/her: I had to start a chapter where I am in order to build like closer connections and like, learn what was going on.

328
00:48:18.001 --> 00:48:23.550
Michelle Wooten she/her: With people near me. But there's on the

329
00:48:23.840 --> 00:48:28.229
Michelle Wooten she/her: dark sky website under the who we are. Tab again.

330
00:48:28.839 --> 00:48:32.459
Michelle Wooten she/her: Right next to the Advocate Link, there was a chapters Link.

331
00:48:32.780 --> 00:48:42.470
Michelle Wooten she/her: so I know that there are very active chapters in here, I can even just yeah.

332
00:48:43.030 --> 00:48:44.670
Michelle Wooten she/her: I'll put this in the chat.

333
00:48:44.950 --> 00:48:53.480
Michelle Wooten she/her: That's where I would start to learn what's going on in your neighborhood. The other thing I see internationally happening. A lot is

334
00:48:54.390 --> 00:48:56.439
Michelle Wooten she/her: thanks for your kind words.

335
00:48:57.520 --> 00:49:01.470
Michelle Wooten she/her: the creation of international dark sky places. So

336
00:49:02.440 --> 00:49:05.739

Michelle Wooten she/her: under the what we do tab on darksky.org.

337
00:49:05.960 --> 00:49:12.890
Michelle Wooten she/her: There's all the places that people are like. The local community are trying to preserve the dark. So

338
00:49:13.180 --> 00:49:15.060
Michelle Wooten she/her: if there's a place dark enough

339
00:49:15.210 --> 00:49:20.770
Michelle Wooten she/her: to you next near to you that you can help get that status it actually like brings a lot of attention

340
00:49:21.190 --> 00:49:31.940
Michelle Wooten she/her: to that place, and that helps tourism, but it also brings attention to the issue, because you can't get a dark sky place status without having education at the park about the importance of dark skies.

341
00:49:32.419 --> 00:49:42.310
Michelle Wooten she/her: So yeah, I see every year, like a new park in Europe getting a status. And it's really exciting. The only other level I know about things happening at is the

342
00:49:43.960 --> 00:49:51.190
Michelle Wooten she/her: United Nations, dark and quiet skies effort, which is international.

343
00:49:56.880 --> 00:49:57.859
Katherine Lee: Oh, yeah, thank you.

344
00:49:57.860 --> 00:50:02.259
Michelle Wooten she/her: Yeah. You guys even wrote an article on it. That was the 1st article that came up on my

345
00:50:05.210 --> 00:50:06.240
Katherine Lee: Oh, wow!

346
00:50:06.240 --> 00:50:07.249
Michelle Wooten she/her: Oh, my, yeah.

347
00:50:07.250 --> 00:50:08.458
Katherine Lee: I somehow missed that.

348
00:50:10.570 --> 00:50:11.700
Michelle Wooten she/her: Anyway.

349
00:50:12.190 --> 00:50:13.616
Michelle Wooten she/her: Good job.

350
00:50:16.239 --> 00:50:26.450
Katherine Lee: We also had a question regarding your projects at the campus. You told us that you face negative reactions to your efforts by different stakeholders and officials. Has that changed over time?

351
00:50:28.890 --> 00:50:37.749
Katherine Lee: Oh, also sorry will has let me know that the QA. Function is also open. So if anyone will prefer to ask their questions that way. I will keep an eye on that as well.

352
00:50:38.167 --> 00:50:43.416
Michelle Wooten she/her: Cool. Thank you so much. So yes and no.

353
00:50:44.780 --> 00:50:49.249
Michelle Wooten she/her: It turns out that the purchase of lighting is

354
00:50:49.915 --> 00:51:01.659
Michelle Wooten she/her: and which lighting gets chosen is not just from the Facilities department. Like our local Power Company, Alabama Power owns a lot of the lighting on campus.

355
00:51:02.000 --> 00:51:04.470
Michelle Wooten she/her: and the city owns some, too.

356
00:51:04.670 --> 00:51:08.880
Michelle Wooten she/her: So trying to get all of everybody on the same page is hard.

357
00:51:09.355 --> 00:51:29.219
Michelle Wooten she/her: I've heard stories about the Power Company just wanting to sell more lighting, you know. So why would they want a dark sky? Friendly light? So what I'm doing with facilities is trying to like these past 2 weeks we've been running, standing outside at night like interviewing people about their perspectives, of the lighting in the area to like.

358
00:51:29.600 --> 00:51:32.890
Michelle Wooten she/her: try and get a hold on like, what do people really want? And like

359
00:51:33.600 --> 00:51:39.580
Michelle Wooten she/her: with more data we can present to the higher ups like this is actually what your community wants.

360
00:51:41.860 --> 00:51:46.479
Michelle Wooten she/her: Instead of just making it a top down decision all the time. And

361
00:51:49.240 --> 00:52:00.180
Michelle Wooten she/her: My understanding is that there's some people. What I what I've been told is that there's some people in the higher up ranks that care about the issue, and then some that don't. They just want to buy the cheapest thing

362
00:52:01.080 --> 00:52:02.519
Michelle Wooten she/her: or the

363
00:52:03.580 --> 00:52:22.289
Michelle Wooten she/her: They think that the bluer lighting is safer, and, like that, shining everywhere, is safer. So there is some education that has to happen at the higher end, too. And so we're trying to create a workshop around that as well. But it turns out that food is really important to have at those, to get people to come, and we can't find a way yet to make it

364
00:52:22.770 --> 00:52:29.269

Michelle Wooten she/her: a way that I can pay out of my fund like my Grant funds to buy food because the university stopped buying food

365
00:52:29.480 --> 00:52:35.714
Michelle Wooten she/her: recently for events. So it's just complicated, anyway. That was a long answer.

366
00:52:39.160 --> 00:52:43.189
Katherine Lee: Yeah, that's definitely I definitely get that, though.

367
00:52:43.670 --> 00:52:45.390
Michelle Wooten she/her: Yeah, thank you so much.

368
00:52:45.390 --> 00:52:46.479
Michelle Wooten she/her: Yeah, thank you.

369
00:52:53.820 --> 00:52:55.490
Katherine Lee: All right. Anybody else.

370
00:52:57.000 --> 00:53:13.840
Michelle Wooten she/her: I will. I will say that we have like it seems like we've been having one campus shine workshop at the Aas meetings every every time. So if if you're going to a double as meeting, and you can make it like the weekend beforehand, like

371
00:53:14.050 --> 00:53:20.089
Michelle Wooten she/her: check out one of our workshops, because you'll learn like more in depth on the tools, tools and skills you can use on your campus.

372
00:53:20.320 --> 00:53:21.120
Michelle Wooten she/her: Yeah.

373
00:53:25.380 --> 00:53:26.870
Katherine Lee: Nice. That's really good to know.

374

00:53:27.040 --> 00:53:27.560
Michelle Wooten she/her: Yeah.

375
00:53:32.760 --> 00:53:34.950
Katherine Lee: And I just need to write that down really quick.

376
00:53:39.330 --> 00:53:43.400
Michelle Wooten she/her: At the one in anchorage. I'm doing a workshop with

377
00:53:43.960 --> 00:53:49.600
Michelle Wooten she/her: the the anchorage. One is this summer Ws. 2, 46, and Nancy and I are doing a workshop.

378
00:53:49.970 --> 00:53:58.999
Michelle Wooten she/her: Nancy's the lighting designer on Sunday morning from 9 to noon before the conference happens. So if anyone wants to come out, we'd love to have you. Yeah.

379
00:54:03.390 --> 00:54:04.160
Katherine Lee: Nice.

380
00:54:06.230 --> 00:54:07.470
Katherine Lee: Alright!

381
00:54:10.380 --> 00:54:20.300
Katherine Lee: Is anybody else has questions. We'll give it another minute or so, maybe let people type.

382
00:54:22.350 --> 00:54:32.030
Michelle Wooten she/her: Yeah, I was. When I get to the question part, I'm always taking a long time to think about. Oh, yeah, what are my questions. It happened to me yesterday at a webinar.

383
00:54:34.540 --> 00:54:41.619
Katherine Lee: Yeah, I was trying to when you were asking questions earlier. I was like, I have to type as fast as possible before they move on

384
00:54:50.050 --> 00:54:56.854
Katherine Lee: all right. Well, yeah, thank you so much for coming and giving this talk. It was really really great to hear from you.

385
00:54:57.570 --> 00:55:03.390
Katherine Lee: and thank you everybody else for coming out and listening and.

386
00:55:03.390 --> 00:55:04.050
Michelle Wooten she/her: Yeah.

387
00:55:04.310 --> 00:55:18.590
Katherine Lee: We will be having another event tomorrow as part of our astrobides Earth Week events. We're having a panel discussion tomorrow, so I hope to see you all there as well. But for now I think that's about it. Thank you so much. Again, Michelle.

388
00:55:18.800 --> 00:55:24.620
Michelle Wooten she/her: Thank you. Catherine will and rule. It was nice to meet you and see you and appreciate the opportunity. Yeah.

389
00:55:25.470 --> 00:55:26.390
Katherine Lee: Yeah, you too.

390
00:55:26.390 --> 00:55:28.150
Michelle Wooten she/her: Thanks, bye.

391
00:55:29.020 --> 00:55:29.840
Katherine Lee: Bye.