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Z5 Zoom Chat with Scientist/Alumni, 5 pm Thrs Feb 17

Feb 12 at 10:51pm

20

Erin O'Connor

Zoom Chat with Scientist / Alumni, Thursday Feb 17 at 5 pm (Optional Attendance)
We had a great Zoom Meeting. Here is the recording:
https://youtu.be/UGRM8Str43c (https://youtu.be/UGRM8Str43c)

- Amalu Shimamura, Jessica Macfarlane, and Sabrina Wagner all were students here at SBCC. All three graduated with degrees in physics and now all work at an innovative company called Freedom Photonics here in Santa Barbara. The company specializes in advanced semiconductor photonic component technology, has it's own specialized patents, and is designing and building lasers that will be used in space based operations in orbit and perhaps on the Moon. They will share with us about their educational journey, the challenges with underrepresentation in upper division physics at UCSB and Berkeley, and the work they all do at Freedom Photonics. Feel free to contact them directly by email (sabiwags@gmail.com, jlmacfarlane@berkeley.edu) or Facebook (Amalu Islandvillage).

Each week we will set up a Zoom chat with a scientist working with astronomy, astrophysics, cosmology, or science and engineering, or an alum of SBCC from our astronomy program to see what they are doing now with school, education, or their lives and careers. Some of our former students are doing amazing things. I will be reaching out to contacts I've made over my teaching career so that we can personalize and humanize the material and create more of an "in person" classroom environment.

These Zoom chats are optional. You are not required to attend, but you are certainly invited. These meetings will be at random various times during the week, subject to the availability of our prestigious guests. The meetings are not lectures. I'm more interested in chatting with our guests to have them tell you a bit about their school, work, and interest in astronomy and to give you an opportunity to ask questions and interact with them yourselves.

If you can not attend, that is fine, you will still get full credit by watching the recording and participating in a discussion about the Zoom meeting.

After participating in the Zoom Chat and/or watching a recording of the Zoom Chat, please post your reaction to the meeting. What did you find most interesting about what they are doing or what they had to say? How is it relevant to your life or educational pursuits? What qualities about their approach or perspective to education (or life) do you think has helped them succeed and to

get to a place where a Black Holes Class teacher would want to invite them for a Zoom Meeting with their class (haha).

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Reply

Sarah Savage (https://canvas.sbcc.edu/courses/46681/users/375381)

Feb 19, 2022

I really appreciated hearing from these ladies about their education and career paths. It's still mind boggling to me how they have had so few other women in the programs they've been in. I like that they all came through SBCC and now get to work together professionally. I don't think I'm on a path to engineering so I'm not sure how relevant their current work is to me, but their journey as women in STEM is certainly relevant. It sounds like they get to work on some very cool products!

Reply

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:37pm

Originally Posted 3/2/22

Yes, I think their educational path is of greatest relevance to you since they were in a field that is under represented by women. They were just just like you, taking classes at SBCC, and now they have an entire new career!

Reply

Abigail Jacobs (*She/Her*) (https://canvas.sbcc.edu/courses/46681/users/367167)

Feb 20, 2022

First of all, I think it's very inspiring to hear women talk during these zooms because they are minorities in these fields, by this, I mean that in the past many women weren't found to be respected scientists it was mostly men. Seeing these women push through the rigorous

journey pushes me towards achieving my final goal to get a Ph.D. I also really liked that they shared their backgrounds and how Jessica went from jewelry design to physics which is a huge change but also shows everyone that you can start doing one thing then make a change and sometimes it's for the best. They are all passionate which I think is an amazing thing to see even if the journey is long and difficult!

As far as this zoom I think it's really cool to have past students giving us current students some insight don't their experience and sharing their journey which was very inspiring!

Reply

(http

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:35pm

Originally Posted 3/2/22

I'm glad that you found this Zoom Chat helpful. You are exactly the type of person I was hoping these very talented young women would inspire. I don't know you or what your major is or your focus, but if you're taking a class in science, you certainly must have an interest in this material, and we need to get more women interested in science and feeling comfortable pursuing these interests. These former students all were just like you sitting in my class, and then several years later, now they have completed their undergraduate degrees, have worked on research projects, and now are working as professional women in industry. We need to see more of that, and you can be part of that if that is your educational plan. Feel free to reach out to them. We specifically discussed posting their contact info so that students like you could reach out and contact them directly. I know they would be happy to talk with you or meet with you for coffee or tea sometime.

Reply

(https:/

Luke Rutherford (https://canvas.sbcc.edu/courses/46681/users/373514)

Feb 20, 2022

I found the most interest in hearing their experience as women involved with physics. Before this, I never realized how their gender plays a role in their area of study and was surprised hearing Jessica say she was the only female applicant to have a physics background. Jessica also shows how educational goals can change and be achieved, from studying jewelry to physics. All of their perseverance and passion for what they do are inspiring and these qualities helped them succeed. They took their passion and followed it, turning it into their life which is amazing.

Reply

(http

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:36pm

Originally Posted 3/2/22

Well said. I also think that they exemplify the human spirit of Drive, Challenge, and Success, and that is regardless of gender. I think all students can be inspired by what they had to say.

Reply

(https:/

Alak Fryt (*He/Him*) (https://canvas.sbcc.edu/courses/46681/users/354278)

Feb 20, 2022

One thing that just blew my mind from the lecture was just how incredibly small the products from Freedom Photonics are. I already knew millimeters were small, but just to put it into perspective for myself, 1 mm is about the size of a pencil tip. Knowing that Jessica, Amalu, and Sabrina were able to create lasers that are millimeters small is just totally shocking to me.

Reply

(http

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:34pm

Originally Posted 3/2/22

Yes, these semiconductor technologies which then led to thin-film technology, has led to miniaturization of many computer and electrical components. But all of this began with the Apollo space program. People wondered what practical results would come from our efforts to go to the moon, and look it's changed our entire world.

Reply

(https:/

Victor Jensen (https://canvas.sbcc.edu/courses/46681/users/416476)

Feb 20, 2022

I was not surprised that computer science is incredibly important for all STEM courses, but I am annoyed that despite its importance, I have never had a good experience with a programming course. AP Computer Science Principles had no central focus that I assumed was due to the teacher being new, but taking the AP test, it was clear that the AP curriculum itself had no direction. My programming classes at SBCC were also just watching the professor code, and typing letter-for-letter what he wrote for five hours straight most of the time. I'd like to be able to work remotely so I can indulge my desire to travel constantly and never settle down, and computer science is definitely the best major for that, but my experience thus far strongly discourages me.

Statistics being important was also something not completely surprising, and I am unsure about other communities, but at my highschool it was advertised as a course just for advanced students that were too scared to take calculus.

I also strongly agree with them suggesting to have a group of people you enjoy working with in college. Online school really makes this difficult though.

Reply

(http

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:36pm

Originally Posted 3/2/22

Yes, computer science is so important, but it does seem to lack focus and direction with regard to teaching. I think it's because there are so many languages and it's hard to know exactly what to tell students to do. My 19 yr old son is also into computer science, and he just developed an app that's on the Apple Store called Crabby Claws, and that was a great way for him to have a project to get excited about. He's now working on another app that maps out all the closest hamburger places. Haha... Pick something that inspires you and make an app or a computer program or an application. Think of it as starting a small business. Computer science lends itself well to this type of free flow project based education, so give it a shot and you have nothing to lose and maybe everything the game. If you succeed and make millions, don't forget to come back and take all of us here in the Black Holes class out to lunch!

Reply

(https:/

Franco Diaz Campo (https://canvas.sbcc.edu/courses/46681/users/403036)

Feb 20, 2022

Hi everyone!

I found this Zoom meeting pretty interesting, mainly because they are all SBCC students, and this motivates me every day more to study since we can see that they are very well prepared and have a lot of knowledge in what they are doing. One of the things that I found more interesting is that they created a tiny laser, and from what I understand, they spent a lot of time on it, and I think they did an outstanding job with it!
One of the parts that also caught my attention is how they explain that there are not many women in the area of physic. I think they are courageous to focus on their goals, and although there are many adversities, they all can face them and continue to what they want in their lives!

Exciting Zoom meeting!

Reply

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:33pm

Originally Posted 3/2/22

That was my hope, that having SBCC students who have gone through our program, then transferred and graduated from a major university, and then gotten jobs in Industry, to have them speak about their journey, I thought that would be inspiring to students here in our classes.

Reply

Brian Wolden (https://canvas.sbcc.edu/courses/46681/users/274832)

Feb 20, 2022

It was great hearing about the different paths all three speakers took in getting to physics and, ultimately, working for the same company. As a student who took a long time to figure out what I wanted to do, it was really nice to hear from others who started off doing something completely different before they found a subject and career they were passionate about. I thought the advice they gave to transfer students was particularly valuable and relevant. I will hopefully be transferring before too long and, as a part time student that also works, I am somewhat anxious about the increase in work load. The advice to ease into classes and not be afraid to ask questions or for help is very helpful. Their advice to become comfortable with

coding is also something that was good to learn. I am very comfortable with computers and work with them at a high level professionally but their advice encourages me to learn and do more coding now so I am that much more comfortable with it when I need it.

Reply

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:38pm

Originally Posted 3/3/22

Glad to hear what they said was helpful to you. I think their journey, starting at city college and then transferring and then finding a job they like, I think that's relevant to all students interested in science, regardless of gender. The fact that one of them had already been working and then went back to school to start a new career and life, that certainly is very applicable to your situation.

Reply

Lukas Gott (https://canvas.sbcc.edu/courses/46681/users/417976)

Feb 20, 2022

Well...I think the most interesting thing about these students is their lasers, because who doesn't love lasers. But in all seriousness the immediate and potential success of this company for such young women is amazing. Being able to create such complex pieces of equipment at such a young age while already finding 100 m in R&D investments boasts amazing potential. I, as well as anyone else, would hope to one day have a sought after product that accumulates 100 million in investment money. It's unlikely to happen, but everyone can hope right?

Reply

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:35pm

Originally Posted 3/2/22

Don't underestimate the potential of a good idea. Whatever direction you focus on in education, you might someday have a great idea and maybe it will draw hundreds of

millions of Investments. If so, don't forget to come back and take all of us from the black holes class out to lunch.

Reply

Malcolm Tircuit (https://canvas.sbcc.edu/courses/46681/users/427388)

Feb 22, 2022

This zoom chat was very insightful. I was surprised to hear how different CCs and universities are. Learning how to take advantage of 1 on 1 time with professors and balancing work and life is probably my biggest take away. It was also very surprising and eye opening learning how unrepresented women are in certain fields such as science.

Reply

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:38pm

Originally Posted 3/3/22

It's great having you join us in these Zoom sessions and since I am focusing on former students who have gone through the educational process of City College and then transferring and then in some cases grad school and then working in companies, you get to see all the different options and directions and for you in high school, I think that's very valuable.

Reply

Naomi Xu (https://canvas.sbcc.edu/courses/46681/users/27955)

Tuesday

It's so nice to see the astronomy class bring these girls together and then for them to stay friends, even becoming roommates and colleagues. There's so few women in stem, and it's really heart warming and reassuring to see them form close bonds with one another.

Reply

Erin O'Connor (https://canvas.sbcc.edu/courses/46681/users/24247)

4:39pm

That's great to hear! Yes, they are really inspiring and are doing so well. I hope that other women in STEM are inspired by what they did (and are doing) and know that there is a community of support to help them succeed (and succeed they will)!

Reply