

Podcast: Life as an LGBTQ+ Physicist

LGBTQ+ physicists speak about how their identities affect their lives and careers.

By **Julie Gould**

This podcast is part of a series of pieces publishing today on the experiences of LGBTQ+ physicists. See also: [Viewpoint: Making Physics Inclusive to LGBTQ+ Folks](#); [Q&A: Seeking Diversity When Faced with Adversity](#); and [Opinion: Wanted: LGBTQ+ Allies](#).

In the inaugural episode of *This Is Physics*, the *Physics Magazine* podcast, LGBTQ+ physicists talk about how their sexual or gender identities affect their careers and suggest actions that can improve the current climate.

You can access and download the podcast [here](#) and on all major platforms.

Music credit: *The Sandhunter*, by **Maeve Gilchrist**, performed by Maeve Gilchrist (harp) and **Nic Gareiss** (percussive dancing).

Podcast host **Julie Gould** speaks with the following guests:

• **Tim Atherton** (he/him), a soft matter physicist at Tufts



University, USA

• **Chanda Prescod-Weinstein** (she/they), a cosmologist at the University of New Hampshire, USA

• **Yasmeen Musthafa** (they/them), a Junior Scientist at TAE Technologies, USA

• **Ramon Carrillo Bastos** (he/him), a condensed-matter physicist at the Autonomous University of Baja California, Mexico

• **Jan Eldridge** (she/her), an astrophysicist at the University of Auckland, New Zealand

Transcript:

Music 0:00

Chanda Prescod-Weinstein 0:08: A queer person is queer everywhere. So a queer scientist isn't just queer in the lab or, you know, in their office wherever they get their work done. We're queer all the time.

Music 0:20

Julie Gould 0:25: Welcome to *This Is Physics*, the *Physics Magazine* podcast. I'm Julie Gould. In this show, we're getting real about what it's really like to be part of the LGBTQ+ community in physics. This episode is being released at the same time as a *Physical Review Physics Education Research* paper, which takes a deeper dive into the results from the APS report "LGBT Climate in Physics," which was published in 2016.

Since then, Tim Atherton, a professor at Tufts University in Boston, and his co-authors have been going through the data with a fine tooth comb, trying to understand in more depth what the climate is like for LGBT+ people.

Tim Atherton 1:07: One of the biggest findings is that an awful lot of LGBT physicists have considered leaving physics. And an awful lot of LGBT physicists have experienced or observed what we call exclusionary behavior. So either being shunned, ignored or harassed. And obviously that's very concerning. What's even more concerning is that those experiences actually strongly interconnect with other identities. So women who are queer experience those hostile climatic features at a higher rate than male-identifying people. And then, even more than that are gender-nonconforming or transgender individuals who are experiencing these things at even higher rates. Then we can look at other identities beyond gender, like race, and we again see sort of really troubling kind of intersections with them. And then kind of the second part of the study is, as I said, like, these climatic experiences have a consequence, which is that climatic experiences actually predict the likelihood that someone is going to consider leaving physics.

Julie Gould 2:32: One of the methods used in this piece of research was based on standpoint theory, which is defined in the paper as follows. And I quote: "Standpoint, theory postulates that real knowledge can be gained only through understanding the experiences of an oppressed group from their own perspectives." And so, this is what I'm going to try to do with this episode. I'm going on a journey to find out what it's really like for members of the LGBT+ community in physics. And if you'll join me, you'll hear that it can be a wonderfully playful place to be with strong support networks and a vibrant community. But you'll also hear about a darker side. A side that, as Tim mentions, leaves many considering their exit strategies from the community. Just to say, we will cover emotional and mental struggles whilst learning what it means to be part of the LGBT+ community in physics, and how those outside of this community can make the working environment, and life as a whole, more equal. On this journey, you may hear things that make you uncomfortable, as it is a poignant topic. So we advise listeners to take care of themselves and others who are listening along.

Music 3:45

Julie Gould 4:02: I started my journey by speaking with Yasmeen Musthafa, based in Southern California in the USA. They studied ultrafast laser plasmid interactions at UC Irvine. And I dove straight into the deep end to find out what the physics community was like for them when they were coming out.

Julie Gould 4:19: Did you come out whilst you were studying physics at university? Or did that happen before or after?

Yasmeen Musthafa 4:25: I came from a very conservative town in northern California. And I didn't even know queer people were real until I went to college. And once I saw them, I was like, "Oh my gosh, like, we can do this? Like, I can... I can be this?" And I was really excited. And when I got there, I realized that a ton of people in the physics department were queer. And I kind of came into my own, like, within, like, I think a couple of months of being there just kind of realizing, like, oh, like, folks like this exist and I'm one of them and I can be accepted here.

Julie Gould 4:56: So that must have been such a huge relief for you, as well, to find this group of people that you felt right at home.

Yasmeen Musthafa 5:05: Yeah, it was really great. I think that queer people in physics are really fun. I stayed in physics because I think the people are really awesome. The way that folks in physics kind of think is really kind of playful. Like, we play with the science in a way that I haven't really seen in other fields. Maybe I'm just not looking hard enough, but I think folks in physics are really playful and fun and willing to kind of entertain different ideas. And when you kind of add queerness into the mix, it gets really fun and exciting. You know, you have folks who are joking about, you know... there are drag queens, who are talking about particles being non-binary, and folks making, you know, jokes about being queer right alongside jokes about statistical mechanics. So it's very, very fun.

Julie Gould 5:45: After hearing this, it was with a heavy heart that I listened to Yasmeen tell me why they left their graduate program.

Yasmeen Musthafa 5:52: I had a lab mate who cornered me and started kind of telling me that the way that I live my life was a sin. And I responded to that by arguing with her and then

leaving my grad program. So I'm not really sure if that's a really good way to deal with things. But a lot of times, like, I think it's really hard to kind of push back against this, because a lot of times they happen behind closed doors. So you're kind of alone, or you're in a corner with some people, and people are saying really awful things. And you can laugh it off, you can fight back. But, like, you know, the worst part about being in physics and being queer is that physics is so insular, like the same people who are, you know, interrogating you about your sexuality and trying to force you to go into the men's bathroom to prove that, like, you're not a woman, are the same people who your advisor collaborates with, who you see at the conference every year, who are friends with your friends, and, you know, sometimes even dating your friends

Julie Gould 6:47: Having to deal with discrimination like this behind closed doors is hard. And calculations and potentially life-altering decisions are made in an instant. Chanda Prescod-Weinstein, a professor from the University of New Hampshire, often has students approach her about how to handle situations like these.

Chanda Prescod-Weinstein 7:07: You have to do that calculation in the moment when the comment is made to you. What are you going to do in that moment? And you're factoring in all of these other things about, well, how much do I want this to affect my life later? And you're making a decision in that moment. Later, you can make other decisions about it, right? But you have to live with how you responded in that moment. And often the array of choices before you don't feel good. And so it's important to acknowledge that that is part of the experience, and that it's deeply unfair. And it's useful, I think, to have someone say, both "This is deeply unfair," and "I will fight with and for you, if you want that."

Julie Gould 7:48: Chanda identifies as a queer, female, Black physicist, and has experienced the behind-the-closed-doors discrimination herself.

Chanda Prescod-Weinstein 7:56: When people at my PhD institution found out that my ex wife and I were getting married, one of the professors, like, pulled me aside and asked me a bunch of questions about how I felt about dick. But that was part of my experience, and I don't even know, like, I can't sugarcoat that for people, right? And, you know, the, the way

that the environment was set up was that, like, there was no sense of, oh, well, there's someone I can go tell that this happened, and that I will feel like, universally supported. In fact, by the time that that had happened, I had had a very serious experience with racism and had seen people mishandle it. And so my experience was: keep your mouth shut, suck it up, just be upset about it quietly. And so my experience was that even when I told people, and they were like, "Yeah, that's deeply unfair," that they would just say, "Well, you know," like, I had one advisor sit me down and say, "Well, you're a Black woman in physics. These sorts of things are just going to happen to you. You have to learn to navigate them." There was no moment of "And I will fight for you." And I think that that's the piece that people need to understand is really important.

Julie Gould 9:03: For Yasmeen, there were people that supported them, and would fight for them. They've been part of many LGBT+ activism, advocacy and support groups, and had made many friends there. And although activism and advocacy can be a really positive thing, it can also be a place of security.

Yasmeen Musthafa 9:21: Marginalized folks in physics are engaging in activism not even really because we are doing it of our own free will, it's more like a survival mechanism. I think it's really difficult for any human to be in an environment and be like, "I'm being hurt. Like, what is happening? Is it me?" And I think that activism helps you kind of realize that it's not you, it's the system, but also like, we can change things. It really gives you hope. And I think that, through my activism and through working with other people, I've met so many amazing folks both, like, you know, queer and not queer, who are just like really invested in changing things, and I feel like that really gives you hope.

Julie Gould 10:00: With all this support behind them, I asked Yasmeen why they decided to leave their program after the incident in the lab.

Yasmeen Musthafa 10:06: The reason why I left was because everyone around me had a huge incentive to, like, not talk about what was happening. Because the moment that you admit there's a problem, like, then everyone takes sides, right? Then people take your advisor's side, or they take your side, and then, like, the department gets involved, then all your cohort mates know, and then you become the person who cried wolf.

You know, I had, I experienced a lot of homophobic, transphobic and sexual harassment, but we don't have to endure homophobic harassment from our lab mates. We don't have to get cornered and insulted at the prospective [grad-student] weekend. Like, these things don't have to happen. We don't have to live like this.

Julie Gould 10:44: So you took matters into your own hands and you decided enough was enough.

Yasmeen Musthafa 10:49: Absolutely.

Julie Gould 10:50: Did you have to give, like, a reason for leaving, and do they then look into it? Or do you just say, "I've had enough, I'm off." Like, can you talk me through how that actually works?

Yasmeen Musthafa 10:59: I effectively applied for, like, a course substitution, finished my master's a little bit early, and then left with a master's. And I think I just, I just, like, faded away. No one really... After I told my advisor that I was gonna leave, they just, they just forgot about me. It was like I was never there.

Julie Gould 11:19: Yasmeen is due to receive their master's certificate this month, March 2022. And although they've left academia, they still work within physics. And they maintain strong bonds with the friends they made as an undergrad and as a graduate student. Now, Yasmeen and Chanda are both based in the USA, where the political climate in certain states makes the living and working environments for members of the LGBT+ community very difficult, if not impossible, without risking their safety. But what is the situation in other countries?

Ramon Carrillo-Bastos 11:55: I'm Ramon Carrillo. I'm from Mexico. I work as a professor in Universidad Autónoma de Baja California, which is a university, state university, close to the border with the United States. You know, I always felt different in, in gender, because I was gay, and I knew it. And then when I decide to go into physics, you know, I enter to university, it was like entering to a refuge, where I found a lot of persons that have the same interest as me, and that they were not caring of me being gay. And so that was amazing. You know, it helped me to build my self esteem. And now I'm open about being gay and about being part of the LGBT community as a professor, students have reached out to me to ask for advice, to tell me

their story just because they want to. So, I think I will classify my experience in physics as a positive and also as a way to accept being gay and being different.

Julie Gould 13:06: What does the Mexican society think about or feel about this particular community?

Ramon Carrillo-Bastos 13:14: It varies. Even in the same street, you could have one house that accepts it totally; in the other house it's like they are completely against. Because there are different religions. There is the Catholic religion, there is the Christian religion, but most of them see it in a bad way. Most of the time, they treat you with respect. And most of the people, they accept it in a certain way. Like, they can tolerate you, they can tolerate your life or who you live with and everything else. But they don't want their kids to be gay, they don't want us to meet their family. So it's kind of mixed. So we are kind of integrated [in a sense] in society, and we get aberrations, but they are most of the time just variable and they're rare. But you know, they can give you a look that you know that is kind of like they are judging you or they don't accept you. So, but you'll get, you'll get along with it. You can leave you can be happy, but still this is there.

Julie Gould 14:29: So there's like, like a permanent undercurrent, like a feeling that you're constantly being judged about the decisions that you make.

Ramon Carrillo-Bastos 14:39: Uh-huh. I think it's like, it's kind of... you always feel different. And when you forget it, they sometimes remind you that you are different.

Julie Gould 14:54: From the other side of the world in New Zealand, Jan Eldridge, an associate professor and head of the physics department at Auckland University, tells me that she wouldn't be her true self if it wasn't for the fact that she had moved to New Zealand.

Jan Eldridge 15:07: So New Zealand is very different to the UK and the US. Right, we can see that at the moment, for example, with all the bills being put through in the US. And that's kind of depressing. And actually, you know, it's, if I wasn't in New Zealand, I probably wouldn't be myself as well. But it's also then having that community of being able to talk to students, and, you know, help them understand themselves and actually

get the feedback, and actually discuss gender issue and what gender is and actually go to these kinds of talks that I've never had the opportunity to, to really actually understand humans being so complicated as we are. The support I've had from the Faculty of Science has been remarkable. And now I actually applied for being head of department. And I was appointed to that position, which is the first job I've ever got as myself, even though it's still my, it's like an extra job on top of my other job. But it was, you know, to know that I've got support, and they don't see me being trans as an issue, or a bonus or a negative, it's just another piece of me. And then also have, to be able to work with my colleagues, and them still trust me, even though I'm myself. And so it says something about the university, and it's all that kind of support that's all happened at the same time to allow me to be myself. But at least in New Zealand, it does seem there's a big push, just letting people be what they, who they are.

Julie Gould 16:19 Although they seem to be a progressive nation when it comes to supporting the LGBT+ community, hostility still exists. Before going through her transition, when she was still not out to her work colleagues, Jan found that one of the most difficult things to deal with was the bad jokes.

Julie Gould 16:36: Before you went through your transition, what was the physics community like through you knowing that you didn't quite fit in? Did you feel that there was support for people for that community or not?

Jan Eldridge 16:49: No, because when you're in the closet, there's, you're just, you're just pretending, basically, and there's no way anyone can know. And it's actually, the thing that really hurts will be things like jokes. So when I just arrived in Auckland, they were setting up a LGBTI staff network, and they had a faculty of science equity committee, and they were just changing over the associate dean who was in charge of it. So I've gone along to a few meetings. And they were talking about things they were going to be doing. And I was talking about this in the physics department staff meeting. And someone talked about, "What does LGBTI mean?" And somebody was joking, "Oh, I thought it was about time tabling." And they all started laughing when I explained what it was. And as a closet person to have that, it's... I won't swear, but it's, like, it's quite demoralizing. And then luckily, though, the new head of department, Richard Easter, spoke up and actually shouted

everyone down and said, "It's not [cool] to laugh at it." And then there's another comment that happened at the staff meeting. You know, we're talking about the gender imbalance in physics because we only had a few women staff members in the department. And someone said, "Oh, we just need one of those people to transition." And it's just like, that's quite demoralizing to think, you know, that, that's all you are to these people [inaudible]. I mean, they don't know, that's the thing. And you're saying these jokes or these comments, and you don't realize: no, just because no one's sitting there with a little flag saying, like, "I'm queer," doesn't mean they're not there. So if you want to stop doing something, stop being nasty and making bad jokes.

Julie Gould 18:24: Along with these small changes, big changes are also needed to ensure the safety of those in the LGBT+ communities. But...

Jan Eldridge 18:33: It takes so much effort. And we know that no academics have any time to do anything extra. But if you do something like I think it's 1.01 to the power of 365 is something like 37, right? So if you do one little thing, like a 1% difference every day, then you can actually make a big impact over time.

Julie Gould 18:52: And these small things are really small: respecting pronouns; gender-neutral bathrooms; no bad jokes. On a department level, Chanda Prescod-Weinstein encourages people to consider the dynamics in their immediate environment.

Chanda Prescod-Weinstein 19:07: There is a lot of conversation about, like, inclusion, which is, like, [recruitment]: "How can I bring more people like you into the department?" I think people really need to step back and think about, "Have I created the conditions where, if I bring someone into the department, they will be successful; that they will be supported; that they will feel like they have the opportunity to genuinely focus on being a physicist?"

Julie Gould 19:30: So how do we stop people leaving physics?

Julie Gould 19:33: Do you ever see a time where it will just be: everyone's here to talk about physics and it doesn't matter who you are?

Tim Atherton 19:45: The wonderful thing about professional climate is that it is essentially free for us to change. Right? We just have to change how we behave with each other. Right? It doesn't cost any money to have a professional and supportive climate. It's one of the very few things we can do that is not resource limited. It's really about our conduct to each other. Right? And so I think, if we will, if we want to, and we're collectively willing, I really think we could have a much more productive and successful climate in the physics community very quickly, actually. And there would be a huge payoff. The huge payoff would be that we wouldn't be losing many kinds of marginalized people—not just queer people, but many other kinds of identities. We'd be drawing upon a bigger pool of talent. You know, that talent that we're currently losing, that is an obstacle to scientific progress, I think. So, you know, if I were to try to kind of cast a utopian vision—and I think it is good to think about what would a good climate look like; I think it's great to have that conversation—it would be one where people are getting support and, you know, there is less trauma happening because the physics community has responded and, you know, adopted workplace practices that I think are more conducive to a mutually supportive climate.

Music 21:07

Jan Eldridge 21:17: Literally, everyone thinks we have the

answers, you know, we know who we want to be. I still do not know who I want to be. You know, I used to think that I had to be a man to be a physicist, and then you meet with these really amazing women, and then you actually meet other trans and transgender and gender-diverse people, and you realize, actually, no, hang on. You know, the universe is complicated. Everyone can really, like, accept that. You know, we go and look at these stars, we don't know how they explode, all this stuff, and it's extremely complicated physics. Turns out, people are complicated too.

Music 21:48

Julie Gould 21:53: A big thank you goes to musician Maeve Gilchrist, whose piece *The Sandhunter* you've been listening to alongside this podcast. And she was joined by percussive dancer Nic Gareiss. Thank you for listening to *This is Physics*. I'm Julie Gould.

Music 22:08

Julie Gould is a freelance science journalist and podcast producer based in London.