Bridging the gap between climate activism and science with Alexi Hu

TEASER:

Alexi Hu: I think we should have the courage to say no to fossil fuel industry. Even if the temperature goes up to like two or five degrees, can we do something about it? Because I don't want to look back when I'm older, regretting that I didn't do certain things. I want to be on the right side of history and I choose people.

INTRO:

David Acuna: There are a lot of ways for us to stand up against climate change, whether it's through the decisions we make in our everyday lives, the work that we do, or being at the front lines of a movement. Today, we're going to hear from someone who has faced climate change on many fronts.

Lana Voracek: Welcome to the Pulse of Change podcast, where we explore the connection between climate change and health by sharing stories about taking action. I'm Lana Voracek.

David Acuna: And I am David Acuna.

Lana Voracek: Our guest today is Alexi Hu. He's a Master of Science student at the School of Population and Public Health at the University of British Columbia, as well as an environmental health researcher at the British Columbia Centre for Disease Control.

David Acuna: In the first part of our episode, we'll hear how Alexi became engaged in climate activism and how that inspired him to become a researcher.

Next, we'll sit down for an interview about his work and hear what he's learned about the impact of wildfire smoke and extreme heat on health outcomes. Finally, Alexi will share what's inspired him along the way and what keeps him feeling hopeful.

Story teaser:

Alexi Hu: My parents and I had to fetch water almost every morning from a water truck provided by the local government.

That's the first time I realized that this place, humans don't belong to this place anymore.

ALEXI'S STORY:

Lana Voracek: Alexi is originally from the Gobi Desert in China.

Alexi Hu: Growing up there, I always knew the delicacy of an ecosystem. In that part of China, we have the longest inland river, the Tarim River, but due to human settlement and mass farming and mining, the river is becoming a desert and will completely dry out in the foreseeable future.

Lana Voracek: A quarter of China's land is undergoing a process called desertification, where inadequate irrigation systems, unsustainable farming practices, and changes in climate are leading to the erosion of fertile topsoil.[1,2]

Alexi Hu: In the past, my hometown used to be called the Gobi Paris for its beautiful oasis, rivers, lakes, and just clean environment.

Lana Voracek: The changing landscape has resulted in severe sandstorms and droughts, which are worsening each year with climate change.[1,3]

Alexi Hu: When I was a kid, yes, we would still have sandstorms, uh, once or twice a year, but it got a lot worse when I was in junior high.

And the heat waves were pretty bad in the summer. I think just before I left for university.

Lana Voracek: Things were especially bad in 2015, the last summer before Alexei moved to Canada.

Alexi Hu: The last time when I visited my hometown in the summer, my parents and I had to fetch water almost every morning from a water truck provided by the local government, and the heat wave was unbearable, um, with temperatures reaching like 40 or 45 degrees.

That's the first time I realized that this place Humans don't belong to this place anymore.

Lana Voracek: Alexi's parents no longer live in his hometown. They are among over 400 million people[1] in China who've been relocated due to the changing landscape.[1,4]

Alexi Hu: I think people have some idea of what's going on with the environment in my hometown.

The government covers up at least the human aspect of climate change quite often. So usually when it comes to our climate change induced disasters in my hometown or in China, it was very weird. A newspaper headline, like, weird event. Scientists are

[1] **Please note the following correction**: Over 400 million people in China have been affected by desertification, and over a million people have been relocated due to the changing landscape.[1,4]

confused, but it's actually climate change. So I think people know we have more natural disasters, but they don't know that it's actually caused by climate change.

Lana Voracek: It wasn't until Alexi left China and started his master's in sociology that he started to understand the human impact of climate change. He learned about the concept of the Anthropocene through a close friend. The Anthropocene encompasses the reality that human activity has fundamentally changed the Earth to such an extent that we have entered a new geological era.[5]

Alexi Hu: And I found that very interesting, and that's when I started to look up articles about climate change, and I went down a rabbit hole of reading Wikipedia pages about like Anthropocene, climate change, and the impact of climate change.

Lana Voracek: These impacts became a reality for Alexi in 2021. When B. C. experienced a severe heat dome with temperatures reaching up to 50 degrees[2] Celsius in some parts of the province.[6]

Alexi Hu: I am from Gobi Desert, one of the hottest places in the world, and in the summer sometimes it can get up to like 45 or 50 degrees, so it's very hot. But during the heat dome in B. C., I found the temperature unbearable, and I lived in an apartment building in Victoria. And it was an old apartment building, so there are quite a few seniors, some of my older neighbors, they were risking their lives during the heatwave.

I told my then partner that this is very, very dangerous, people will die.

Lana Voracek: And he was right. Over 600 people died.[6,7]

Alexi Hu: and I think that will give me like a firsthand experience of what it means by this statement that climate change is the biggest public health crisis

Lana Voracek: as climate change began to feel more real and pressing for Alexi, he started to engage in social movements.

Later in 2021, he attended the Fairy Creek Old Growth Blockade near Port Renfrew on Vancouver Island.

Alexi Hu: The demand was to end all old growth logging in BC because we know old growth trees are natural carbon sinks and they're very important to our ecosystem, especially in a time of climate change.[8,9] I felt more hopeful about climate change because I saw this huge community gathering together.

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[2] The highest measured temperature in Canada's history was 49.6°C in Lytton, BC on June 29, 2021.[6]

It wasn't just like a homogenous group of people, it was very diverse, there were retired people, there were even ex carpenters, students who were young professionals who quit their jobs for the blockade.

Lana Voracek: But not everything about the experience was positive. The protesters faced a lot of challenges, like police brutality, anger from the public, and being called names.

Alexi Hu: When people are being inconvenienced, right, they get frustrated. Many drivers would curse and yell and things got physical. And there are a lot of names being called, like Harris, Stupid Hippie. So it was kind of disappointing that people didn't understand the cause of that kind of movement.

Lana Voracek: Facing aggression from the public and confrontation with police alienates protesters from society and can turn people away from climate activism. It also raises questions about whether protesting is the most effective way to challenge these issues.[9]

Alexi Hu: In my activist circle, a lot of young people are very passionate about climate change and climate activism, but sometimes it's a group people who are very hopeful for a better future, too hopeful that they become idealistic because they don't understand how the system works.

I often see a gap between climate research and climate activism. People in these two fields often don't overlap.

Lana Voracek: Then Alexi met Dr. Tim Takaro, someone who would influence his path moving forward. Dr. Takaro is a physician scientist and professor emeritus at Simon Fraser University.

Alexi Hu: Meeting him was quite empowering. I was really thrilled that a real scientist is bridging this gap.

Lana Voracek: In June 2022, Dr. Takaro was sentenced to serve 30 days in jail for protesting against the Trans Mountain Pipeline expansion, commonly known as TMX.[10] TMX is a highly controversial project which will transport oil from Alberta to the coast of BC.[11]

Alexi Hu: there are just ordinary people who want a better future for themselves, for everybody, for next generations. But I think it's me or us who have the opportunities or the privilege to pursue higher education. I think it's up to us. To take some leadership or to have some initiative like what Dr. Tim Takaro does, right? When you have that knowledge and expertise in climate research, you take some leadership and you also like you bridge this gap between activism and research.

Lana Voracek: In 2022, Alexi decided to pursue a second master's degree to study the impact of climate change on health.

Alexi Hu: Because I think climate change is the biggest public health crisis, and we need more public health research.[12]

David Acuna: Coming up next, we'll dive into Alexi's work and the research he's doing for his master's thesis.

Work teaser:

Alexi Hu: When you study colonialism or deconstructing colonialism in Canada, how can you be neutral?

INTERVIEW ABOUT ALEXI'S WORK:

Lana Voracek: So your current work involves mapping health events like deaths and hospitalizations. In relation to climate events in BC, how do you do that?

Alexi Hu: I have the environment data which is based on temperatures and PM 2.5 measurement. On the other hand, I have mortality and morbidity data.[3]

Lana Voracek: PM 2.5, or particulate matter 2.5, are tiny particles that measure 2.5 micrometers or less.[13] They come from sources of air pollution in the area, like vehicle emissions, wildfire smoke, and construction dust. Because they're so small, they can be inhaled deeply into the lungs, causing inflammation and damage.

Alexi Hu: So I link these data together, and then I find days that I call heat days or smoke days. And I compare the mortality and morbidity on those days to the days without heat or wildfire smoke.

Lana Voracek: Alexi can use this information to find out whether there is a significant difference in hospitalizations and deaths between days with extreme weather events, like wildfire smoke and extreme heat, and days without.

And there is a difference. He found that between 2009 and 2022, extreme heat[4] increased death rates by three to five percent, depending on the region.[14] He's also able to use the data to answer other questions.

Alexi Hu: Who are these patients or who are these people? Where are they from? I don't really know who they are because it's all depersonalized information, but I know which neighborhood they're from or which local health authority they're from.

Based on that, I will be able to identify vulnerable communities.

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[3] Mortality and morbidity data refer to data about deaths and hospitalizations.
[4] In the study, extreme heat was defined using the heat alert thresholds set by Environment and Climate Change Canada and the BC Heat Alert Response System.[15]

Lana Voracek: Alexi has created an interactive map to help visualize which areas of BC are more vulnerable.[16,17] This information can also help policymakers and health authorities provide more funding and resources to the communities who need them. What does vulnerability mean to you?

Alexi Hu: Um, I think my background in anthropology helps me understand the social and political mechanisms of climate change through how our Civilization has changed our landscape and how this sort of climate change affects different communities. If we're all exposed to something like chemical or any hazard or wildfire smoke, but the impact is different, it varies, right?

So what factors affect this variability? Right? Like the whole city of Vancouver gets exposed to COVID 19, for example. We all get COVID. Some people survive. Some people don't. Some people have better or faster recovery. What kind of factors affect this recovery or this impact? And in terms of climate change, it's the same.

We all live on the same planet, right? So to some extent, we're all exposed to the impact of climate change. But The impact of climate change is different on different communities.

Lana Voracek: There are many groups and communities who are disproportionately impacted by climate change. When we think about who is most vulnerable, we often think about physical vulnerability, like seniors, children, and those with chronic health conditions.

But vulnerability is much more far reaching than that. Climate change disrupts the human rights of those who already experience discrimination for factors like their ethnicity, gender, and socioeconomic status.[18,19] This includes Indigenous communities, those who have cared for the land for many generations, and have contributed to climate change the least.[20]

Alexi Hu: I'm also hoping, if possible, to organize workshops or community events. And show people the map of vulnerable communities identified in BC. And just to tell people like, hey, climate change is not in the far future, it is here and it has been impacting our communities in BC.

Lana Voracek: What have you learned from doing this research?

Alexi Hu: This is a long term issue that even in 2009, BC had an extreme heat event, and many people died, and we could have done a lot of things.[21] We could have reduced the casualties or the impact of, like, 2021 if you don't, but we didn't do that. much. And did we learn from 2021? I'm not sure. So it's, it made me realize that climate change was already here.

And if we don't do something about it, more and more people will be victims of climate change. And one day it could be you, it could be me.

Lana Voracek: You shared your journey with us about how you started as a climate activist. And then you moved into climate research. And earlier you were talking about how those of us who have the privilege and opportunities to pursue higher education, it's up to us to take leadership.

So as someone in your position now, how do you see us bridging the gap between climate activism and climate research that you mentioned earlier?

Alexi Hu: Oftentimes, I think when climate researchers, they do research, they like, Oh, today, our new study showed that, for example, in 20 years, this river will totally dry out. People who live near the river will be forced to move. And that's it. It's just kind of like a piece of neutral knowledge that they're not emotionally attached to. That's what bothers me sometimes. When you study climate change, or when you study deconstructing colonialism in Canada, how can you be neutral?

Right, you have to have a sense. It's never neutral, like research is political. So when you study climate change, what is your conviction behind this research? What is your motivation behind this research? And I think it should be based on changing. the status quo or changing the fundamental cause of climate change.

Doing research itself is tedious and sometimes very boring, but I do find a hope or excitement from potential outcomes or policy work. Someone has to do the dirty work, and I don't mind doing it. We should have more people like Dr Tim Takoro, who is very knowledgeable in his area, but also who is willing to block TMX by his, like, own body.

I'm not saying every scientist needs to do that, but, but I think we should have the courage to say no to fossil fuel industry, or we should have the courage to advocate for a better future.

David Acuna: Stay tuned for the last part of our episode, where Alexi shares what he's learned throughout the journey so far, and what keeps him hopeful.

Takeaways teaser:

Alexi Hu: Because when we think about climate change, often it's It gets heavy and grim. Being able to imagine a different social form and a different way of living harmoniously with the environment is crucial.

ALEXI'S TAKEAWAYS:

Lana Voracek: What message would you like to share with our listeners?

Alexi Hu: For any listener, if you feel depressed and unmotivated because of climate change, I want to tell you I feel the same. And I was very depressed for a long time because of climate change. I'm not saying I'm less depressed or I feel that we would have a bright future, it would be a lie.

Oftentimes when we think about climate change, it's such a broad, big topic, how can we do it? It's a systematic issue that any individual is too small to change it, right? When I started to volunteer a couple of years ago, that's when I realized, you know, you can go back to a community.

Like during the heat dome in 2021, I didn't know what to do, right? I cannot change the heat dome. I don't have a weather weapon. What I could do, what I did, was to talk to my neighbors. I chatted with few neighbors who were kind of vulnerable. They were seniors. I was like, Hey, my name is Alexi. I'm your neighbor. This heat dome is very dangerous.

Do you have enough water? You know, do you need help? I think community is very important. Dr. Sarah Henderson from BCCDC, she and her team did this study during the heat dome and they found that most of the deaths, most of them lived on the top floor of an apartment and then they were isolated.[22] So this is something we could do as individuals, right? We could check our neighbors. We could help each other out.

Lana Voracek: And you did mention earlier, though, the need for systemic change. So is there a way that we can apply these lessons to making systemic change?

Alexi Hu: I think any big movement starts from grassroot movements and starts from communities. And I got inspired a lot by, uh, the civil rights movement in the 60s in the United States.

How did it start, right? It's not like, boom, overnight, the society changed and people were less racist or racial segregation stopped. It started from, you know, communities. Usually, it started from something really, really small, and that small thing is community.

Lana Voracek: And you also talked about finding community in your activist circle. Was there anything in those experiences that was especially meaningful to you?

Alexi Hu: I was very lucky to meet some Indigenous elders. They have been practicing, uh, sustainable or alternative ways of living since time immemorial.[23] Uh, it really helps me rethink how we live with nature, animals, and our planet.

Because when we think about climate change, often it's, it gets heavy and great being able to imagine a different social form and a different way of living. harmoniously with the environment is crucial. And Indigenous people in Canada and across the globe have been living in this way for many, many, many years.

They have existing wisdom that we can learn from and we can use to counter climate change.

Lana Voracek: Alexi, thank you so much. It's been amazing to have you with us today. And we just have one last question for you. Here on Pulse of Change, we like

to share inspiring stories of people like you who are working on climate change and health.

So, we'd love to know what keeps you feeling inspired and hopeful.

Alexi Hu: I think it's people, because I think in the past I took this kind of self centered approach when it comes to a lot of things, like climate change and social justice, like, oh, I'm so small, there's nothing I can do. Um, well, I'll just, I'll just try to survive.

But I think my motivation comes from people because I keep getting inspired from people. And maybe I can give up on myself when there is a natural disaster, but I don't want to give up on people. There will be people here, even if, you know, the temperature goes up to like two or five degrees. Can we do something about it? Because I don't want to look back when I'm older, regretting that I didn't do certain things. I want to be On the right side of history and I choose people.

CREDITS:

David Acuna: Pulse of Change is hosted and produced by Lana Voracek. Audio production and music by David Acuna. Artwork by Alanna Thorburn Watt. If you enjoyed this episode, follow us wherever you get your podcasts and leave us a review.

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Learn More About Extreme Heat

- BCCDC - Preparing for Heat Events
- Government of BC - Be prepared for extreme heat and drought
- Health Canada - Extreme heat events

Learn More About Wildfire Smoke

- BCCDC - Wildfire Smoke
- HealthLinkBC - Wildfires and your health
- Health Canada - Wildfire smoke, air quality, and your health