



S U N Y College of Environmental Science and Forestry Campus Conversations: The Podcast

Season 2, Episode 2

Dr. Mary Collins, Associate Professor, Environmental Studies

Dr. Lemir Teron, Assistant Professor, Environmental Studies

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Joanie Mahoney: Hello, everybody. This is Joanie Mahoney, president of SUNY, E S F, and I am hosting another episode of The Campus Conversation. This season is focused on research and we have two of our esteemed faculty from environmental studies joining us. And as I told them before we came on here, their areas of expertise are something that I have a lifelong passion for, and I'm really proud that we're doing the work here that can make things better for everybody. So, before I go any further, Dr. Mary Collins, will you introduce yourself?

Mary Collins: Sure, sure. Thanks for having me. So, I am an Associate Professor in the Department of Environmental Studies, and I'm also associated with the college's environmental health program, where I do collaborations with research and teaching for that program. And my research is really at the intersection of environmental quality and human health endpoints and the socio-political factors that are at play and, you know, kind of represent the world in which we can study the relationships between environmental hazards and health effects. So that could mean things like regulatory decision-making or other social forces that are at play. So, you know, I have a background where I've spent a lot of time in interdisciplinary settings. So, while I would claim my history as affiliated with environmental sociology and some of the mentors that I have been in that field, I've also worked a lot with people from cultural anthropology or political economy, and I've spent a lot of time in these interdisciplinary settings that have really informed how I think about the systems in which I work. So, I try and conceive of the system as integrated between the social and the natural, and that when you study one part of it, you have to consider how what you learn might change other parts of the system. So much of the work that I do has this sort of systems approach. I use quantitative models and large landscape settings. So often we're looking across, you know, broad patterns, which means that I need to collaborate with people who are more on the ground sometimes.

Joanie Mahoney: It's very interesting, and that interdisciplinary focus that you have, I'm sure, is, you know, furthered by some of the research that's done by your colleagues here in different areas. And you're able to have conversations here and collaborate. And one of them is Dr. Lemir Teron, and I will pass the microphone to you and ask you to do the same.



Lemir Teron: Yeah, I feel like you set me up. You're going to ask me to go after that.

Joanie Mahoney: I know.

Lemir Teron: You're an encyclopedia of environmental knowledge, and I have a business card, but yes, I am Lemir Teron, also in the Department of Environmental Studies, my work focuses on environmental justice. So, if you think about how systemic inequality influences environmental livelihoods, I do a lot of things with the state of New York in regards to energy policy, but at the core of what I do, it's really driven by urban sustainability within the context of environmental justice. So, as we make these transitions in New York State, in the United States, and across the planet, in the populations where population centers, where people live, we want to make sure that everybody has an opportunity to partake in renewable energy transitions and other sustainability-minded activity.

Joanie Mahoney: You know, that is something that we've talked about a little bit already here in this season and in last year when I was introducing some faculty members. And that is that some of the policies that are in place for renewable energy are helpful to people that are struggling to buy their groceries. Right. So you can get \$10,000 rebate on your electric car. It doesn't matter to you if you're having a hard time getting the staples that you need in your life. So, I would imagine that having people with the wisdom that you have, putting the knowledge into the policymakers so that they can make sure that their policies are having the effect that they want, that's got to be tremendously helpful. And how do you do that now? The C L C P A, the climate leadership policy, do you know what it's called, Mary?

Mary Collins: It's the oh, my gosh. I just always call it C L C P A. The Climate Leadership and Community...

Lemir Teron: Protection Act.

Mary Collins: Protection Act.

Joanie Mahoney: Among the three of us will get all of it right. Is that the venue for the policy makers? Are they going to be able to get the benefit of your research through groups like that? Or how are you informing people about what your science is so that they can make the decisions that really in most cases, I hope they're trying to make?



Lemir Teron: Sure it's one venue. And if you think about the C L C P A. Hopefully I got that right. I did. Yay!

Joanie Mahoney: Tell folks what the C L C P A is real quick.

Lemir Teron: Yeah, landmark piece of New York state legislation that really puts this state ahead of the curve when it comes to climate policy and climate action. And within the C L C P A, there are specific provisions for disadvantaged communities. Now, one problem is when the act came into place, disadvantaged communities wasn't defined. So, we're still trying to work our way through that. But 35 to 40% of all climate policy benefits are going to be targeted towards disadvantaged communities. And this legislation is so avant-garde, it actually was a precursor for a federal executive Order Justice 40 initiative. So, they basically, on the federal level, took New York state legislation, took that language, and adopted it into a recent executive order. I think it's 14 0 0 8.

Joanie Mahoney: That's terrific. And there are ,E S F voices, faculty members that are at all of those subcommittee tables informing folks. So, I appreciate you doing that. And then back to my question, which is how in your daily lives are you translating the research that both of you are doing out to the policymakers?

Lemir Teron: Sure. Do you want to jump in?

Mary Collins: Well, Lemir and I have worked with recent Ph.D. grad Michael Petroni a bunch. And Michael has developed something called New York enviroscreen. And so we've been trying to talk to the relevant committee leaders about how could you be creative and, you know, use cumulative impact scores to try and identify disadvantaged communities or communities that would be top of mind as S stakeholders make decisions. And so, both Lemir and I have worked with him to help foster the research that he's doing and place it at the intersection of decision making and, you know, sort of modern data science approaches to doing this type of, you know, spatial selection, I guess. But I think that one of the most impressive parts of that was watching and helping Mike Petroni sort of do his work. One of the most exciting aspects for me doing research here is working with these students who have just, you know, jumped into the deep end quickly without any fear. And so, you know, Michael really, I think, has been an example in taking research and really trying to translate it into a way that policymakers can make decisions in a really contemporary way. And that is something we've worked together on. I mean, Mike, we have been we were on his committee together and he's been just I mean, he's like a star in his own right.



Joanie Mahoney:

Well, I don't know if you're aware, but in a previous life, I was in local government and I saw firsthand decisions that were made with infrastructure. And it was obvious that some of the least desirable parts of our infrastructure were being placed in some of the lowest socioeconomic neighborhoods. And I wonder whether that's changing, whether that's getting any better. So, you can talk about what we need to do on a macro level in terms of reducing the temperature and all these effects of climate change. But on the ground, that's where you two are, right? You're on the ground. Are decisions like that being made with any input from scientists like yourself about what the effects are of the people who live in the neighborhoods where these kinds of things are happening?

Lemir Teron:

Absolutely. On the ground. I'll just talk about a few quick experiences since you mentioned your past work in government. I've actually worked with Onondaga County Government on their climate action plan and made recommendations about some things they can be doing to be a little bit more forward-thinking to the 21st century. Also working currently with New York State in regards to a support piece of legislation where a support activity to the CLCPA. This is New York State's Climate Impact Assessment. I'm on the Energy Working Group. So, when you talk about vulnerable communities or folks who have been marginalized, my job within this is to make sure that New York State is very forward-thinking when it comes to what is this climate transition, what is this energy transition going to look like for marginalized communities, the black folk that live on the south side? What's it going to look like for disadvantaged communities? What is it going to look like for rural populations as we go to native communities making sure that they are part of the conversation? So absolutely. I think we're playing a pivotal role because we're raising voices and we're not just raising voices because we're in communities. We know community members and we're making sure that they're not just at the table because sometimes you're on the table, but you can be on the menu, right? We're making sure that those community members are a meaningful part of environmental policy on the state level.

Joanie Mahoney:

You know, that is something that struck me in that work in local government is that the voices that were missing, oftentimes, if you looked specifically at some of the folks that weren't there, they're working two and three jobs and don't have the luxury of setting up meetings with the powers that be or attending the neighborhood watch meetings and getting involved. It's a matter of I only have 24 hours in my day and I have to do two or three jobs during that time and raise my kids. So, it's important that we have folks like you. So, tell me about the work that you're doing. You work with the Onondaga Earth Corp to some extent. I know I was



able to work with the Onondaga Earth Corp and just a great group of young people by and large that are trying to do what?

Lemir Teron:

So they do a lot of things, but the capacity in which I interact with them is around their urban forestry mission. So, if you are in central New York, it's not uncommon to see their young staff persons in the streets, in the parks, wearing these purple shirts and neon-clad vests, and they're doing the work of urban forestry, not just planting trees. They're responsible for maintenance of trees. But even beyond that, because you can't plan and not maintain. But even about that, community empowerment and community education. So, I see so many young people who are involved in that program who are getting legitimate workforce development skills. And that program to me, is an exemplar of what environmental justice on the ground activity should look like and can look like. And I really think it can be a model for other communities across the nation.

Joanie Mahoney:

So why is it important that we have a focus on urban forestry?

Lemir Teron:

Why? Well, I would say this. When you're talking about combating climate change for a relatively inexpensive price, the on the ground effects like heating temperature anomalies in urban communities, combating urban heat islands, planting trees, and the maintenance of trees is going to be a very important part of that strategy. And I'll tell you about some work that I'm doing right now with the brilliant professor, Ted Endreny, who does all types of incredible modeling with temperature anomalies across central New York. So, what we can see on any given day, we can run temperature models. And while we have an official weather station at Hancock Airport, that temperature readout may be, let's just say theoretically 85 degrees. But we know that neighborhoods that have a bevy of trees, those communities are going to be substantially cooler. So, if we're starting off at 85 degrees, trees or neighborhoods that have a rich canopy, they're going to be substantially cooler. Guess what? You have other communities that are called urban heat islands, usually divorced from trees. And these communities are going to be significantly hotter, sometimes within the hundreds of degrees. And to go back to the earlier point that you made earlier about economically strapped communities, if you are living in a community that is substantially hotter, these urban heat islands, you're going to be forced with the proposition, can I run my electricity? Can I run my air conditioning? Or is it going to be a situation where if I do that, I may not be able to pay for my grocery bill? So, these are real decisions that folks in central New York are making every day, specifically within the city of Syracuse. Very recently, a federal report from the U.S. Census Bureau came out which stated 50% or just under 50% of all children in this city are living in poverty.



That is a moral disgrace. One extension of that is what are the considerations, what are the choices that the parents of those children are going to have to make? If my kid eats today, does that mean we're not going to be able to run the A C? So, nobody in this city should be faced with that dichotomy.

Joanie Mahoney: Absolutely. How is it that there is this correlation between the poverty level in a neighborhood and the lack of trees? How does that happen?

Lemir Teron: Yeah. So, it goes back to like many of the current environmental maladies we're facing, who's more prone to be lead poisoned? Who lives in a food desert? A lot of it goes back to the earlier part of the 20th-century urban planning decisions. So, when you think about the decisions that an organization called the Home Owners' Loan Corporation made early 1940s, late 1930s. They made urban development decisions as to what neighborhoods get invested in, and a really landmark piece of research that came out just a couple of months ago, in fact, 2022, it shows communities that are red-lined. They have poor air quality. So, if we go back, you got to be a critical geographer. You got to be a historian. Decisions made by planners in the 1930s and forties are affecting the livelihoods of people in cities like Syracuse in 2022. And oftentimes certainly they have economic dimensions. But ultimately, the dividing line in many cases, there are many racial ramifications of those decisions.

Joanie Mahoney: Absolutely. And I know it's been clear to a lot of people for a lot a long time, but there's a lot more conversation about it now. Mary, how about you? What do you see in terms of the health outcomes for folks who are living in the communities that Lemir just described?

Mary Collins: I think that that's really relevant to talk about. Most of the data we work with are based on regulatory decisions that are made. So, after the Emergency Planning and Community Right-to-Know Act in the eighties the merges, the toxic release inventory, and this covers 600 or so chemicals that are released by industry. And one of the projects that we've done in Syracuse is to partner with experts at S U and Upstate who have individual-level measurements of body fluids, whether it be urine or blood, and look for toxicant-specific loads within individuals. And then correlating that with air pollution or toxicant-specific air pollution is not what they originally planned on doing with their cohort projects. But through partnerships that I've made over the last several years, we have looked at toxicants-specific releases and toxicants-specific bodily samples to see if the regulatory decisions that are made are protecting some of the most vulnerable groups in town.



Joanie Mahoney: So, for the average layperson, are you talking about air pollution?

Mary Collins: Air pollution, specifically heavy metal, air pollution. So, chromium, lead, mercury, nickel releases, industrial releases. So, these are all things that come out of the stacks. And often the way that regulatory decision making occurs is that there's a model that's usually applied. And so, then a release threshold is set, and that's how facilities are either in compliance or not in compliance with the permits that they are granted to release these types of toxicants.

Joanie Mahoney: So again, for the average layperson, if there's an industry that is releasing these heavy metals, they are subject to permits from the D E C and E P A and others and they can be compliant and at the same time have people in the neighborhood who have elevated toxins in their blood and in their urine?

Mary Collins: Oh, yeah. I mean, you know, these are thresholds that are set using the best science available, right? But these decisions occur in a socio-political realm where, you know, power disparities associated with how the decision is made, whether it be from industry or from, you know, other forces. And so, one of the things that I think is most important for us in the last year or so has been being able to show that when an industry is releasing nickel or chromium, it's showing up in, you know, near-west-side children. And when E P A comes under fire for setting what those thresholds for releases are, they can point toward the studies that know, like, we have a threshold level that shouldn't be lowered because we are already seeing these types of chemicals showing up in kids' blood or kids' urine and those have cardiovascular endpoint effects and are part of exposure profile that a person is subjected to.

Joanie Mahoney: So, you're talking about the powers that be, and that can be a couple of different things. You can have these industry folks that happen to be big contributors to people that are in policymaking positions. But also, and I've said this myself for several decades now, people need to vote. That is the most powerful thing that a group can do, especially, and I have made it my mission to get folks out to vote because I said, you make it easy for policymakers to ignore you or ignore your interests if they're not afraid of any ramifications for that, if there's, you know, \$1 that we have to spend and there's five different people that want that dollar, the dollar is going to be spent on people who are going to vote because that's job security for the people that are doling out the money. And so, I used to tell people, even if you don't vote for anybody, just show up on Election Day and sign in, that you're there and show this strength at the voting booth. If everybody on your block shows up to vote, when it comes time to dole out those resources at the local level,



people are going to pay attention because they're going to want to satisfy the places where the votes are coming from. So, I'm curious, there's a lot of federal money that's come as a result of COVID, and stimulating the economy after a lot of things were shut down. If you had the power to take \$100 million that the city of Syracuse has gotten, and I'm making up that number, it's not that far off. If you were given that money to spend in the city of Syracuse, it's one-time money. What would you be doing with it? Like, what are the things that you think we could be doing? I know I'm throwing it out there as a surprise to you, but I'm curious what your thoughts would be if I said, here you go, Lemir, here's \$100 million to solve some of the problems on the South Side.

Lemir Teron:

Absolutely. Unfortunately, there's no shortage of problems. So, let's begin here. So, I mentioned a little bit earlier food insecurity. Moral disgrace that you have so many children in the city of Syracuse schools are coming from low-income households. There is a community-wide exemption. Every day students get free breakfast and free lunch. So, there are some systemic economic inequality issues where \$100 million can do some substantial things, not just for food insecurity, but also for workforce development. Unfortunately, we are plagued by heightened rates of lead poisoning in this community. We need across the board lead mediation, not just lead detection. We know there's lead in your home. We need full-scale remediation to remove lead dust, to remove lead paint not just from homes, but also from dirt. And then finally, since you throw in the climate change caveat, we certainly need more community solar all around this state, all around this community. We've been very crafty at public-private partnerships for things like E V charging stations. I want to see that same ingenuity when it comes to community solar to make sure that everybody has entree to the renewable energy transition. Because as you said earlier, you give somebody a ten or \$15,000 subsidy for their nice E V. That means nothing if you're one of those family of four households making sub-\$25,000 a year, or one of those family of four households that is making sub-\$40,000 a year. It's just not applicable. It's just not relevant. We all can benefit from community solar or other renewable energy technologies and strategies.

Joanie Mahoney:

So, when you talk about community solar, are you talking about on the buildings and on the rooftops in the neighborhood? Or are you talking about pieces of vacant land with solar arrays or all of the above?

Lemir Teron:

Both. And so, you have a lot of vacant buildings. You have vacant land on top of people's homes, on top of school buildings, on top of E S F buildings. We're at such a critical point with climate change that we need to be exploring all of these



options and we won't start and end with solar. That's just one strategy. So where appropriate, although sometimes expensive, geothermal needs to be on the table, where appropriate wind turbines need to be on the table. So, community solar though, for its relative cost, I think that gets us further into the game pretty quickly. And it is a democratizing technology.

Joanie Mahoney: That's an interesting phrase, a democratizing technology. So, is this something that the public needs to invest in? Is this community solar in our neighborhoods in the city of Syracuse?

Lemir Teron: Yeah. So, the public-private entities who are interested in raising our solar capacity, we have expertise and ingenuity on this campus. We certainly can be doing more to make sure that technologies and education in regards to these things get infused throughout the city and central New York.

Joanie Mahoney: How do we get that knowledge from here to the folks who want to do the right thing? And I'll say my experience has been that most people want to pitch in to help, but they just don't know where to start. You know, what do I do to try to solve these problems myself?

Lemir Teron: How do we infuse this knowledge? Well, we have to realize that our classrooms are way beyond this several-acre campus. My classroom is right next door to us in Baker Hall. But I spend a lot of time at places like City Hall. I spend a lot of time in places like public libraries doing the work of communicating environmental decision-making. So, it's not to say that people in those facilities or vicinities are my students, but I'm an environmental educator. And part of my responsibility is working with the 2000 plus students in E S F. But also, there's a very public-facing component that involves working with local policymakers, working with grassroots community organizations, working with the local environmental law efforts. I see that as a vital component to E S F's future in this community.

Joanie Mahoney: And how do you think we're doing? Are things better now than they were a few years ago in terms of people's knowledge about the effects of some of the decisions that have been made in the past and the need to make things better?

Lemir Teron: The community is hungry. They have an insatiable diet for this level of interaction. If I can just tell a quick story about how I was invited into this community. I began working here in the summer of 2016. Within two months there was a local community group. Somehow, they had found me on the university's website. "Wow, you do environmental justice work." We're talking about the Southside T N



T. “You’re doing edgy work. Can you please come to our community meeting and give us an environmental justice analysis of, or the environmental justice dimensions of the I 81 redevelopment?” So, community members are hungry to have this level of sophistication. Community members are hungry for this level of interaction between the university and the on the ground conditions. And ever since then, I’ve had a wonderful relationship with the Southside T N T, and our working relationship has extended way beyond things related to I 81. I did a community meeting with them just a couple of weeks ago on that tree project I was telling you about. So once again, putting tools in the hands of local community members so that they can make the best decisions for their portion of Syracuse.

Joanie Mahoney:

Absolutely. And then, for people who maybe aren’t familiar, real quick, the T N T that you’re referring to is Tomorrow’s Neighborhoods Today. It started as a federal grant probably 20 years ago. Our long-time Congressman Jim Walsh started that program and funded it at the federal level. And it’s his son who’s now the mayor of the city of Syracuse. So, it’s interesting. And I do want to talk specifically about 81, but I’m interested, Mary, in your response. If you were given oversight for some of these federal dollars that are coming in to stimulate our community, what would you be spending that money on?

Mary Collins:

Well, I guess, it’s hard for me to conceive of like \$100 million, you know, given our budgets. But I’m not surprised at the statistic that Lemir cited from Census, about 50% of children living in poverty. I wish I was surprised sort of. But seeing sort of some of the reports about the way people are living and the urban corridor here, it’s not that surprising. And I think if I had that much money for one time, I would think about how to put poverty alleviation and decreasing inequality on the same level as environmental quality. I think that from the research that we do and the frameworks that we work with, I tend to believe that environmental inequality is part of how we experience environmental quality. And what I mean by that is if you live in a world where it’s very unequal, then the people who cause bad things can just transfer it over to another group and they don’t have to deal with it themselves. And so, I think that if we put a lot of city planning effort and creativity into what is possible from the standpoint of making the playing field even and equal, then you would actually realize a lot of the sustainability goals that are intertwined in the master plan for 81, for example, or in the dreams that people have for their communities, you know, right down the hill. And I often think that people talk about sustainability as about changing the quality of the environment. And I just think that that misses the tight intertwining that has with inequality. And I, I would really try and think about how to be a forward-thinking planner with that



type of money. And I don't, it's hard for me to picture what that budget would look like, I guess.

Joanie Mahoney:

Well, you also mentioned 81. And so, let's talk about that for a minute. And I'll say that this is a conversation that's been going on in Syracuse since at least the late nineties. I was on the Syracuse City Council with Van Robinson. I don't know if you know that name, but he's one of the, you know, most senior statesmen in Syracuse. He started talking about this in those days and it was the late nineties. We're still talking about it. We haven't done anything. But what I'm concerned about now and then let me say the reason I tell you it's been going on that long without any movement. The reason that's important is because there are some people that just want to get started and I sympathize with that group. But what I'm concerned about is that we're hearing all the reasons why we should take 81 down. They have to do with things like air quality, right? Having an elevated highway through the neighborhood has shown up. I think, Mary, correct me if I'm wrong in some of these health outcomes that you've seen, and the talk is about how we did all this damage, environmental justice damage, and we're going to heal all of this by moving forward and making the wrong right. The thing that I'm worried about is this same group of people that doesn't show up all the time at the neighborhood meeting because they're working two and three jobs and they're trying to keep food on the table. I'm not sure they're paying attention enough to the details of the plan. And when all of this is over, that elevated highway is still going to bisect the city of Syracuse, keeping the traditionally African-American neighborhoods on one side and the university on the other side. The highway isn't coming down until you get downtown. And I wonder on the health outcomes from an environmental justice standpoint, but just on the psyche of people who are under the impression that this is going to make everything better, you know, should we be talking about the fact that the highways actually not coming down in the south side?

Lemir Teron:

So, let's talk a bit about why folks aren't showing up. And absolutely, some people are not showing up, overworked, underpaid, they're tired. But a lot of people aren't showing up because they are disaffected. They have no faith in the system. They don't believe that whether it's showing up for at the ballot box, showing up at the community meeting, is this going to deliver me equality? Is this going to deliver me justice? So absolutely everybody in the city of Syracuse and beyond needs to be voting. But a lot of people have checked out just because they don't have faith in policy and government to deliver outcomes that are going to be systemically equalizing. So, to answer your question specifically, is there misunderstanding what's in that ten- or 15,000-page draft environmental impact assessment? Perhaps. But what I would say is this: no matter if you eradicate the entire viaduct,



whether you eradicate the entire interstate, you circle it around, it doesn't come through Onondaga County at no point in time. That's beside the point unless we deal with the systemic racial inequality in this community. What do I mean by that? Let's talk about the segregation that I see in this community five days a week, because if we're going to have this meeting, let's keep it real. Let's talk about it. If you want to know about the systemic inequality, I'd advise you let's go downtown during rush hour. Look who's going into buildings. More importantly, look who's not going into buildings. And we can see that there are strong and profound racial divisions. So, to me, yes, we need to be thinking about what's in alignment with environmental justice principles when it comes to the interstate. But I want to go a step further and say let's talk about the systemic socio-economic and racial inequality that exists way beyond whether or not an interstate is in your backyard. And that's not to minimize the interstate, but we've got some core issues if we are going to be a urban leader in the 21st century.

Joanie Mahoney: Well said. Here, here. And there are, I'm sitting here listening to you and I'm thinking about all the other things that come into play. I'll say first, the graduation rates in the city of Syracuse are ticking up in a really encouraging way, and that will bear fruit. But the lowest graduation rates are inside the city of Syracuse. Right? And the unattainability, I know we here in the SUNY system have tried to make higher ed attainable for everybody in the state of New York. But for some folks, it just hasn't worked that way. And so, there's so many other parts that go into who's going in those buildings. Right? And I agree with you and I really appreciate your perspective to hear you say it. The highway isn't the biggest issue when it comes to the segregation and the racial inequality that we have in central New York. And even some of it coming down is better than none of it coming down. But let's focus on all of the components that go into what you all are seeing. Is that a fair way of saying it? So, I'm curious now, Mary, switching gears, you work with big data.

Mary Collins: Mm hmm.

Joanie Mahoney: How, what does that mean to regular folks?

Mary Collins: You know, especially in the context of this conversation. I think about it like I have a really high-level view of things like large prevailing patterns. But often, I do a lot of collaboration to try and put these patterns in the context of people on the ground. And...

Joanie Mahoney: Let's start at where are you getting this data? Who's collecting all of this data that you have access to?



Mary Collins:

Most of the data that I work with is generated by E P A, and then it's modeled by E P A experts or in collaboration with large groups of people that try and look at, okay, so if you have a smokestack in New Jersey that releases a specific chemical, where does it go and how worried should we be, and whose community is it raining over? And then what we do is we look at one release and then there's, you know, potentially about 25,000 or so releases per year that span across all the different parts of the country. And we use a lot of population data from U.S. Census and we really try and link back to regulatory decision-making.

Joanie Mahoney:

And I would ask you the same question I asked Dr. Teron. Are you, do you feel like we're moving the needle in the right direction? Are you seeing that policymakers are trying to do the right thing and that there's a level of concern that maybe didn't exist a few years ago?

Mary Collins:

I think so. I mean, I'm an optimistic person, I think, in general. But my experience working with both people at the federal level and the state level and to some extent within issue-based groups, are that everyone is amazing in their own right. Like I don't go, I worked for E P A in 2009 for a while, and I when I first got there, I kind of thought, who am I going to meet? Like these people that aren't doing everything they need to do? And it couldn't have been further from the truth. Everyone was doing the best they could with not that much to work with. And so, for example, one of the situations I've been in recently is that we're interested in looking on a polluter-by-polluter basis in terms of how much does one polluter add to the vast problem of industrial pollution. And what we've found is that these patterns are driven by, like, a group of bad actors. And so, then we get on calls like enforcement calls with E P A or something like that, and we talk to them about, you know, these are the patterns we see. Like, what do you see and how does this sound to you? And they are extremely receptive. We have done things like help with inspection targeting regimes. So, you know, who should you go, who, what door should you go knock on? You know, E P A is probably always going to be working with a limited budget. And so, some of these decisions are just really important. It really is important what door you knock on, how you can find violations and hold polluters accountable.

Joanie Mahoney:

It's really encouraging right now for me to hear you say that. So, you take this big data and you can look at patterns and you can see a handful of bad actors, bring that information back to the people responsible for enforcement. You have their ear and they want to be doing that. So how about you, Lemir?



Lemir Teron:

I just wanted to jump in and talk about the magnitude of Mary's research. I'm going to give a shout-out to your stuff. And I've told you about your research before. I don't care if the listening audience has three degrees, zero degrees or the house is 50 degrees. Please do a web search on Mary Collins' Super Polluters Research. This is not hyperbole. This is not exaggeration. I think that you're doing some of the most important research on the planet. So, take a look at Mary's, Professor Mary Collins' work on super polluters. Some of the most important research on the planet today.

Joanie Mahoney:

And that is accessible? We can go to your website or go to the E S F website and find your page?

Mary Collins:

Yeah, yeah. We, I guess I think what we've been mostly doing is trying to understand why you would see this sort of egregiousness going on, like what are the conditions that produce it? And one of the things that we find ubiquitously is that the community in which these facilities are located are almost always environmental justice communities or communities that you can think of as environmental justice communities. And so, when we talk to E P A about how to do this type of targeting, we can talk about it like you're not only going to be targeting the worst of the worst when it comes to contributions to environmental degradation, but you're going to be doing this type of action in communities that need it the most.

Joanie Mahoney:

Exactly. Exactly.

Mary Collins:

That plays back into, just, I don't know that I have evidence that I can speak to, but after looking at the body of research, I just, I feel very strongly that inequality is inextricably linked to environmental quality. And so, if we are to make decisions that are hopefully going to lead to better environmental quality and changing the patterns of degradation, then you can't look at it without looking at patterns of inequality.

Joanie Mahoney:

Absolutely. And that's where we started this conversation. And I was saying, you're really putting the facts and the data around what you could see from a 40,000-foot view or for driving down the street or looking at the buildings downtown and seeing who's going in and who's not going in. I'm thrilled in this series of conversations that I'm having, at the sharing of knowledge. And if you're doing this really great work, as Lemir said, and that's out there for the public to see, that's our mission here, right? That's what we're supposed to be doing. We're a public institution doing some of the best environmental science work and making sure



that that knowledge gets outside this small, several-acre campus as Dr. Teron said. So, I could not be more proud of the work that's done here. And I really appreciate you taking time to stop and tell us exactly what it is that you are doing and share some of that with us. With that, I will just say thank you, thank you for what you do, and thank you for being here today. Dr. Mary Collins, Dr. Lemir Teron, thank you very much.

Lemir Teron: Thanks for hosting.

Mary Collins: Thanks.