***Audio Podcast about the Symposium on the Science of Disproportionate Environmental Health Impacts***

CHRISTINE GUITAR: We're speaking with Dr. Julianna Maantay on the proximity issues related to environmental justice. Hi, Dr. Maantay.

JULIANNA MAANTAY: Yes, Hi. Good morning, how are you?

CHRISTINE GUITAR: Great. Can you tell us who you work for and sort of what your field of expertise is?

JULIANNA MAANTAY: Yes, certainly. I am a Professor of Urban and Environmental Geography at the City University of New York and my home campus is Lehman College in the Bronx. So, I'm a geographer and, as such, I analyze spatial relationships amongst phenomena and try to figure out how place matters for any given problem. So, I've been active in environmental justice research for probably about 15 years or more and my research focus centers around using geographic information science (GIS), which is a kind of computerized mapping and spatial analysis, to examine environmental health issues and health disparities. Generally we're looking at things that are due to pollution and other aspects of the political, social and built environment.

CHRISTINE GUITAR: Great. And can you tell us about the paper that you presented at the symposium?

JULIANNA MAANTAY: The paper—the paper's about the relationship between proximity to environmental hazards and adverse health outcomes and environmental justice. And in the paper we're asking the sort of basic question: Does proximity to environmental hazards result in adverse health outcomes and account for health disparities? And, if so, how does proximity contribute to disproportionate environmental health impacts?

CHRISTINE GUITAR: And can you help us understand what you mean by proximity, maybe paint us a visual picture of what that is?

JULIANNA MAANTAY: Our hypothesis is that people who live close to pollution sources are more likely to suffer adverse health consequences and that pollution impacts certain populations more than others. And these things are predicted based on socio-demographic characteristics like race, ethnicity, economic and social position. So, for instance, in my work in the Bronx we found that people living close to a polluting facility or a land use, such as a Toxic Release Inventory facility or other stationary point sources or mobile sources, what we call mobile sources which are like highways or truck routes---the highways aren't mobile, it's the vehicles on them—they're much more likely to end up hospitalized for severe asthma. So these populations living near these noxious facilities also tend to be poorer and they have a higher proportion of minority residents than those people not living close to the facilities. So, it's all about who lives within a certain distance of these facilities. So, it's very likely that less affluent people and

communities of color are disproportionately exposed to the pollution, as well as bearing disproportionate adverse health impacts which stem from their exposure to the pollution. So in all the literature that we reviewed for the paper, these health impacts include, we looked at a whole variety of things, including: respiratory illness, stroke mortality, cardiovascular disease, end-stage renal disease, PCB toxicity, diabetes, adverse reproductive outcomes. And by that I mean things like pre-term birth, low birth weight and also childhood cancers like leukemia.

CHRISTINE GUITAR: And can you tell us what the paper, what does it mean to communities?

JULIANNA MAANTAY: Well, we, we evaluated over 160 peer reviewed research studies. So these are research studies that have already sort of passed scientific scrutiny. And these studies looked at proximity to hazards and environmental justice and adverse health outcomes. And they were done over, you know, the past 2 decades. So our paper reports on the conclusions that are reached by these papers. Now, overall the findings demonstrate pretty definitely that proximity to hazards does matter, as a determinant in people's health. And that overwhelmingly the people most burdened by these exposures are the less affluent people and people of color. So there's been, you know, many, many individual research papers that have reached that conclusion but as far as we know our paper is the first that really comprehensively analyzes this very, very large selection of other research studies, puts them all together in one place and, you know, presents a definitive body of evidence saying nearness to environmental hazards has deleterious health consequences which mainly fall on the most vulnerable populations. And these are the people that are least likely to have, you know, the resources to effectively combat the impacts. So this paper ties together the evidence for environmental health injustices, as well as the health disparities.

CHRISTINE GUITAR: And if there was one key recommendation you would make, what would that be?

JULIANNA MAANTAY: Well, you know, I'm not a policy person but I would hope that people in the governmental agencies can take what we found which I think pretty conclusively proves that proximity matters and use it to create policies and regulations that better protect people from environmental hazards. So I think regulations and regulatory reform can help enormously in reducing pollution and protecting people's health and this of course, you know, this needs to be done, immediately. So what we hope from our paper is that the lessons we've learned can illuminate and sort of clarify some of the uncertainties surrounding this issue of proximity to hazards and environmental health justice which we feel now has been, you know, really definitively justified and so that this work can continue with, you know, this additional ammunition of what we've been able to prove in the paper.

CHRISTINE GUITAR: Great, Dr. Maantay, thank you very much.

JULIANNA MAANTAY: O.K. Thank you.