Hello everybody welcome,

we're gonna give it just a second for everyone to get set up

and then we will get started here today.

Right, it looks like most are connected to the audio,

so I welcome you all thank you for joining us,

my name is Becca Melnick.

I'm the associate director of admissions,

here at the Yale School of Public Health.

I recognize many names, I've seen you all throughout the process

so, thank you for joining us today,

this session for our Executive MPH Virtual Open House,

is focused on the Environmental Health Sciences Track,

as hopefully many of you have seen,

we've had other events throughout this week,

a general program overview,

sessions for other tracks specifically,

and we'll be having other events for financial aid careers,

and the intensives leader in the week.

So with that, I will turn it over to Yong Zhou,

who's the track coordinator,

to talk a little bit more about our EHS Track.

And we'll just say that,

we want this to be interactive and helpful for you,
so please feel free to ask questions that you have as we go.

Thank you, Becca and everyone joining us today,

so this is a brief overview about Environmental Health Sciences Track.

That’s the first from page.

So just a little bit about myself,

My name, Yong Zhou, I’ve PhD in Molecular Biology,

currently I’m Associate Professor of Epidemiology,

in the Department of Environmental Health Sciences,

So my research area is in the field of molecular cancer epidemiology.

Basically dealing with biomarker,

or social weights, environmental exposures and the disease progression disease, CLPD outage,

so from molecular perspective,

and Almeida based the perspective.

This is my research area.

And research disease focused on cancer,

so this is my email, and cellular phone number,

we have another slide,

talking about my role in this program,

this is my contacting for so you want me to fail sciences that become one

of the dominant themes of the 21st century

because of the growing global population
and our limited resources and the strain ecosystem

monetary challenges require aware

train workforce and possessed the scientific skills.

And then I think the tours to come from the emerging stress.

So we need to learn something, but again

that’s the purpose of the cost we design to fit the requirement off of these challenges

because through important the national Institute

of environmental health sciences, and yet as one of the major Institute NIH and also world health organization WHO

have launched collaborating center
to investigate many environmental health science,

concerns, for example

on our children’s environmental health science that could be impacted

by environmental exposures and the Columbia changes and the

and the human health and the indoor air pollutions

including other productions from the water

or the pollution is also so that’s the important off the mountain fall sciences, probably.

That’s the one for the reason you, you take the front

of the house to check, but this is the three calls us.

We put together.

It’s very unique accurately for 12 calls.
So we combine to our professors their expertise to enhance the content and health of these calls us, we them with the first one. We first caused you to support your assessment. So we all exposed to different chemical, biological, physiological, environmental agents doing our daily life. But these calls were provided tours to assess environmental stressor in conquer the indoor or outdoor and occupational environment. And there’s review masters for evaluating the quantitative of the exposure data for you. Then pull the air pollution, the water contamination. So what’s the best way to assess them and how to collect the quality data for research purpose. I think these are the first the costs given the concept is that a lot of diseases associated with you can support you but this is the pure epidemiological approach. We’ve tried to find association between exposure and the disease or other Phil’s outcomes making a connection by the water tours available for exposure assessment but still then we can say the how to apply the
latest epidemiological and toxicological research to their own work and the project. So after this course, that’s the initial part. So we have two professors teaching. These costs, professor Nico diesel. She is a pro, especially the professor I would department. So her expertise is in the field of risk assessment and the methodology. And also we have professor crystal plate. Her expertise is in the chemical and environmental engineer and she developed aware wearable Ben Reese. I mean the deaf people could carry this again individualize the exposure data. So they provide both of them were providing expertise for the methodology and the four data connecting real data to environmental exposures. That’s the first, first cost we put together. But if we consider the association between exposure and the disease so what’s in the middle, that’s the black box. So the second the cost will help us to break this black box to see what specific hazard exposure agents in this black box that could help us explain the observed association.
So I learned the foundation for understanding our role of toxic cottage in public health protection was a focus on 21st century techniques and the challenges that the new technology students learn for hazard identification, but simply why be introduced to basic principles of toxicology. If we can have a dose response mechanisms of toxicity and the standard of defense instead of a response but these all in this black box between exposure and the human diseases and then they move on to advanced topics then how we use these tours for study early life or one a bit at a low level exposure to mixtures and the system biology approaches and the green chemistry solutions and the problem presented by chemicals that are common in consumer products and the building environment.

So Wells together to offer our professors the teachers cost professional part. And that’s another thing. Yes, Hey, here’s the final off green chemistry but probably you all know what’s green chemistry.
Lastly, we build our product to use in one little friend.

That chemical, then you run with a friend today.

Then now it’s just with our environment. We also have our profile.

I will department here, professor I met his name was Ella.

He’s the senior toxicologist. I mean with expertise in this field the leading toxicologist in the field.

So both of them will provide the fundamental principles of the different tours that students can use.

People can use for hazard identification, but these.

The second and cost be able to upon the first one of the exposure and the disease Carnation.

And the water towards can use to identify specific hazard.

between exposure and the disease.

So the third cost we put together that risk assessment.

These calls were introduced the methodology interpretation application on the communication surrounding the use.

of visit assessment in poppy house.

So students were gaining an understanding.

of how toxicology information.

on hotter than a dose response is incorporated.

We exposing information to predict the house risk.
173 00:09:31.460 --> 00:09:34.587 for why the variety of populations and also students
174 00:09:34.587 --> 00:09:36.920 the bathroom visit assessment
175 00:09:36.920 --> 00:09:39.263 for real world exposure issues.
176 00:09:41.810 --> 00:09:45.080 So after we know about specific exposures
177 00:09:45.080 --> 00:09:47.990 and the know about some detailed chemical
178 00:09:47.990 --> 00:09:52.990 a hazard or Asian that could then could expose you and
179 00:09:54.310 --> 00:09:57.580 and the human population and the disease outcome.
180 00:09:57.580 --> 00:10:00.350 So the next job we should do is that what’s
181 00:10:00.350 --> 00:10:03.900 the policy we should put together
182 00:10:03.900 --> 00:10:08.900 for policy decision making, but again, risk management
183 00:10:09.460 --> 00:10:12.776 also the policy maker to make decisions.
184 00:10:12.776 --> 00:10:15.700 So this work gave us some idea
185 00:10:15.700 --> 00:10:18.430 about what information we should have put together
186 00:10:18.430 --> 00:10:20.420 to present to the policy maker
187 00:10:20.420 --> 00:10:23.880 and the involved with the English risk of management and
188 00:10:24.750 --> 00:10:27.490 and the policy and public health policy.
189 00:10:27.490 --> 00:10:31.117 So we have professor Gary Ginsburg.
190 00:10:31.117 --> 00:10:34.070 So he’s also the director of the center
191 00:10:34.070 --> 00:10:37.440 for environment health in New York state department
192 00:10:38.796 --> 00:10:40.517 of health, who he has tons of experience
193 00:10:40.517 --> 00:10:44.045 with policy environmental policy, and also how
194 00:10:44.045 --> 00:10:47.455 to interpret the data collected the farm research
195 00:10:47.455 --> 00:10:49.193 from different research.
196 00:10:50.418 --> 00:10:52.590 But most of the time we have to conduct a multiple
research project to confirm exposure and the disease relationship, the what information they what are important for the fullest policy makers.

So these are these sweet calls us give a different perspective of how we approach environmental related
to the issue.

Okay I think firstly, these days.
Okay in addition to these three courses but students can also get access to all our faculty members.

I know that they also go to site visit. You can have in-person meeting.
We saw were a faculty member, but you can always check our website to identify the faculty with research issues.

We are, you’re very welcome to contact them.
The research expertise of our EHS faculty.
It covers a number of few if we can, some off of them.

And we are then at the end we already talked about that’s the resource area
of the course instructor framework.
But in addition to those we have climate and energy impact on sales
where people working on climate change and human health.
We also have faculty members with expertise in developmental origins of human diseases. So for early life exposures are so important that as a risk predictor for later life diseases and the green chemistry, we already talk about understanding and overcoming environmental health disparities. We have also people work on novel approaches to assessing environmental exposures and early biomarker of effect the systematic system biology approaches. That’s why they use among seven welfare. So we’re all following faculty groups. And also we use this tours to apply these tours in the major human diseases including cancer, heart disease and also these days than the Corona virus COVID-19. Okay, so during the pandemic, we have a lot of experience with online teaching, but also online research but you’re well, very welcome to contact our faculty member to see whether you want to participate in their research, a specific topic or get involved in their research. Probably we can, we can develop something for you too. This would be working with it, gained some experience.
involved in a real research setting.
So as a track quality, neither.
So my thought is to help support attract development
and review, get feedback.
Pharma student investigator, Rob, as a bridge
between a student and teaching faculty and we’ve
cost evaluation, supporting instructors to improve
with their counselors or the cover something you really need
in also, I can provide a student academic
career mentoring for them.
If you want to know more about the specific research
topic can help you to connect to a wildfire faculty member.
And it’s upon identification of capstone project
before the research all fails Easters or
for any project you are interested, I think we can help to
make the connections.
So that very brief being sure that I’m sharing
about you mom know how science says
about the three courses we’ll put together
About other results.
Tonight is also our whole department is open
to all for you
and about my role as the coordinator.
Thank you.
And any questions
- Are there?
No, no questions at all.

This is, you know, for you all, any questions you have

about the courses, the track, the kind of combination

do not worry about the courses with other tracks, anything that’ll be helpful.

And thank you, Reynolds are freezing the chat

feel free to use the chat or raise hand

or just to kind of turn your camera or your mic on

- This, off the slides so we could see each other.

- So the question is

are there tours provided to labs where work is performed?

Not, I mean, from an emissions perspective, not really.

We have a campus tour that will be posted online

within the next probably two weeks.

That does show a little bit

of the inside of some of our labs, but there are hundreds

of faculty research projects and labs on campus.

It’s hard to kind of capture them all in one sort of tour.

And unfortunately at this point, campus is not open

to external visitors, so we can’t have kind of live tours

but I don’t know if there’s kind of another

anything else you can think of that would be helpful
289 00:16:39.327 --> 00:16:42.040 for kind of tours of labs where work is performed.
290 00:16:42.040 --> 00:16:44.000 - Well, I know this, our professor Paul,
291 00:16:44.000 --> 00:16:45.410 another test is here.
292 00:16:45.410 --> 00:16:48.501 I think Paul, do you have anything to add
293 00:16:48.501 --> 00:16:51.420 - Or a pleasing?
294 00:16:51.420 --> 00:16:52.440 Some of my apologies
295 00:16:52.440 --> 00:16:55.550 I had a little trouble linking onto the zoom link.
296 00:16:55.550 --> 00:17:00.320 My, but I, I just wanted to say one thing specifically
297 00:17:00.320 --> 00:17:05.320 about the, the tours that as, as we transition
298 00:17:06.370 --> 00:17:11.370 to increasingly opening up our, our labs, I'd be more
299 00:17:11.422 --> 00:17:16.080 than happy to engage people and, and coming through our
300 00:17:16.080 --> 00:17:20.823 our labs and, and trying to even do it virtually if you
301 00:17:20.823 --> 00:17:24.811 if you wish to contact me directly
302 00:17:24.811 --> 00:17:29.811 or through or through yarn or, or, or admissions.
303 00:17:30.650 --> 00:17:34.374 So I'm always happy to do whatever we can to
304 00:17:34.374 --> 00:17:36.730 give you a glimpse into the, the
305 00:17:36.730 --> 00:17:41.730 the real world, real world of, of our laboratories.
306 00:17:42.957 --> 00:17:45.110 There's something that I just wanted to add.
307 00:17:45.110 --> 00:17:49.173 If I, if may professor Zhou, I just wanted to say
308 00:17:52.727 --> 00:17:53.890 I thought that the description of the
309 00:17:53.890 --> 00:17:56.794 of the program was, was really wonderful.
310 00:17:56.794 --> 00:17:58.922 And the only thing I'd add
311 00:17:58.922 --> 00:18:03.406 to it was that the way that this program was, was built
the way that it thought through was thought through was to identify the essence of what a student would want to know would need to know the essentials of exposure, hazard risk those things that are yeah, the, the, the distillation of those key principles, those key fundamentals so that they can be applied. And then as we said, opening up those other opportunities to interact with the wide range of faculties and resources at Yale. So that’s what it is. It’s, it’s the essence of what you would want to know on this topic. Okay. Thank you for that kind of continue to or additional information about the track that’s really helpful and I’m glad you could join us as well so that students can meet as many faculty members and program team members as possible. Are there any other questions at this point? Hi. Hi. Can you see me? Thank you so much for this wonderful presentation. I have a question about the first course in the track and I wanted to see if it’s built
on the elementary introductory epidemiology course.
- I think there’ll be some overlap
some better concept of stay the same, right?
I mean, I think epi designed a pre-approach
EPU protocols where the similar
but the work to focused on your mental perspective.
So how we use these tours for this assessment
is going to be lying different epi design.
I think that they do the overlap, but again
the focus will be a little different.
Thank you so much.
So there’s another question to chat, Dr.
can you speak more about your work on green chemistry?
Sure. I’m always happy to, I, you know, I talk so much
about green chemistry that people are usually
asking not to talk so much on green chemistry.
So I’m always happy to accept that invitation.
So for those of you who don’t know what green chemistry is
it basically takes this concept of the substances that make
up our society and our economy, everything that we see touch
and feel pretty much as a chemical.
So when we think about, Oh, a chemical is something special
or specific and produced by the chemical industry.
Now we’re surrounded by chemicals and we know that chemicals have given us a tremendous amount of function, but we also know that they’ve brought about a tremendous amount of hazard and risk and a negative consequences. And so what green chemistry is all about in its essence is how do you maintain all of the function while eliminating those adverse consequences. So carcinogens and neurotoxins, endocrine disruption, environmental pollutants. And so it’s all about the design and chemistry has given us while eliminating those adverse consequences. So carcinogens and neurotoxins.

So as I, as you can tell, I could go on for a while but I probably ought to stop there.
Any other questions

You know, as much as I said, I was going to stop

I’m going to add one or two more sentences.

So I get to co-teach the, the course on hazard.

And we think about hazard perhaps too often as just the way things are.

It’s just the nature of things, but we dive into hazard

not just understanding that things are hazardous

but why they are hazardous the underlying physical

chemical properties of what makes us substance hazardous

what makes it allowed to get into our body.

It would be in the adjusted cross

membranes caused those kinds of problems.

And we want to get that deep level understanding

so we can design new things to be different.

So that’s why understanding hazard is so rather

than just simply protecting ourselves with masks

and respirators and personal protective gear and, and

saying always use in a well area.

Instead, we can design things

so that they are intrinsically less hazardous.

And so that’s, that’s the perspective that we bring to

to that course and throughout the program.

I think that your work is a great example
of really the interdisciplinary perspectives you get across the program here. I think, you know, that the EHS track and your work in green chemistry really highlights how the different schools and programs at Yale crossover a lot. And you’re able to kind of bring expertise from different areas across university and how that isn’t, you know, really, I guess, evident in our on-campus program, but still a great opportunity within the executive MPH online, that you’re still able as a student in the program to engage with experts and scholars in these really, you know interdisciplinary areas of public health work. So we’re glad that you are a part of the track and I’m part of the program and really highlighting that true benefit of our MPH and the executive program. Yeah, go ahead. I was just going to say, thanks for bringing that up because that interdisciplinarity is key because the way that the school coordinates, collaborates
and builds with whether it be the school of engineering
the school of architecture, the school of environment
especially there’s so many interconnections in order to bring about all
of those positive consequences for public health.
And that’s what this, this program really emphasizes.
- Yeah. Just add to Paul’s point that the, the hardest
identification involve some basic mechanistic studies
but you can look at it, exposure assessment. They only give us association
but we do not know whether these are causal association
or just association with all the causal effect.
So the sec that’s a, but again
we shouldn’t need a good technology.
You mean high quality data to conclude those
but the second the cost, how do the identification
like the doctor and ask the surgeons that we
some biological mechanistic study
we can pinpoint what chemicals to Pacific evolved
in these exposure disease association
then concreter some call.
So you fact, now we can bring this information
to policy maker, for example
one good example, the freedom there
some contamination in the water, a certain area.

Then we find some seeing this.

Then just some policy maker can ask all the people leaving that area.

They have to get some filter to clean up their water.

So I think that’s the sway different perspective put together can help us better address any environmental related issues with all this.

So this hallway we design - That’s a great way to, to put it in.

I would just add to that, that the philosophy of the program of the school of all of the professors that you’ll interact with is that yes, we seek to deeply understand these problems deeply, rigorously scientifically understand these problems, but the only reason to deeply understand a problem is to inform and empower it solution.

And so how we take that deep level understanding is what we’re teaching you is the essence of how to understand those problems.

In order to inform and empower public health solution.

So I think that that’s, that’s really key.
and that’s the real power of how this program was designed.

Well, I’m not seeing any other questions so I wanna thank everyone for joining us today.

Thank you to our faculty members and program team for being on with us to talk a little bit more about the program.

As I mentioned we have other open house events throughout the week. Definitely join us.

Hi. Do you have a question to them? Go ahead.

Hi, I’m Tom Hayden, really excited. So I’m struggling with, I really was focused on environmental health sciences and informatics, but then there are so many other classes too, and I’m having a hard time with trying to figure out how to work, you know...

...to get the most out of the experience as well as, and I’m curious for the different in the environmental health sciences track are you able to take diff...
504 00:28:53.890 --> 00:28:56.650 each one builds upon the previous one.
505 00:28:56.650 --> 00:28:58.463 And so it'd be weird to jump.
506 00:28:59.780 --> 00:29:01.940 You can’t jump into necessarily the third course.
507 00:29:04.461 --> 00:29:06.691 because you didn’t get the prior to
508 00:29:06.691 --> 00:29:10.676 or it might not be as easy to follow along
509 00:29:10.676 --> 00:29:12.725 with the third course as if you weren’t in the previous.
510 00:29:12.725 --> 00:29:14.491 And so I’m curious with the EHS pro track
511 00:29:14.491 --> 00:29:17.040 is it possible to actually, you know, if I did the first
512 00:29:17.040 --> 00:29:18.627 and maybe the third or the second and the third
513 00:29:18.627 --> 00:29:20.752 or if I did, you know, or is it that they each, you know
514 00:29:20.752 --> 00:29:24.663 you need to take each one relate to get two, to do each one.
515 00:29:24.663 --> 00:29:27.170 I mean, if I wanted to do the third class
516 00:29:27.170 --> 00:29:30.783 do I need to take the previous two?
517 00:29:32.740 --> 00:29:34.451 - But again, my quick response is
518 00:29:34.451 --> 00:29:37.774 that these are three separate courses.
519 00:29:37.774 --> 00:29:41.627 The only independent is not just build upon another one.
520 00:29:41.627 --> 00:29:44.770 For example, all the tours, talk
521 00:29:44.770 --> 00:29:48.410 about the one us not to rely on the knowledge, but again
522 00:29:48.410 --> 00:29:50.829 the reason we talk about the
523 00:29:50.829 --> 00:29:52.830 why we putting all this together, we have scientific link
524 00:29:52.830 --> 00:29:55.763 the address, the question from different angle
525 00:29:55.763 --> 00:29:58.636 but the artists start with independent.
526 00:29:58.636 --> 00:30:00.803 The so you can take from one of us or the one
527 00:30:00.803 --> 00:30:03.210 cause we used to get management and policy
528 00:30:04.430 --> 00:30:06.463 but then you kept some question.
You mind the, how we get this data. But again, that answer by first of course, right how we do this first design. But if we want to know about what is the specific chemical compound what tools people use to ping pong specific aging in these exposure is this association but that’s the second cause of what a cover. So I think you can take, take this in different orders in random order, but based on your schedule, but again the underlying knowledge underlying link between this.

But again, that’s the hallway. They adjust the crushing from different perspective but again, you can take the sort of the one first to match. They’re all second, I’m gonna take the second one. I don’t think it doesn’t any, any requirement. You have to take these in this order, but Paul, you, you, you have any, any other suggestions? Well, let me just say there there is and it’s actually to be determined for environmental health sciences. There will be a specific order of the courses but I think your question Tom has to do with the knowledge and skills that one would need.
as a prerequisite to take a course. So in the case of VHS I think it’s fair to say as professors you said that, you know, you can take the third course in the sequence and benefit fully without taking the first two for this track. If you’re interested in epidemiology, I would say, you know if you’re going to be taking the third course in that sequence, advanced analytic methods and epi if you didn’t have a very, very strong foundation in epidemiology and basic analytic methods it would be a very challenging experience for you. So the question of what you need as a prerequisite you know, as has been said, EHS, wouldn’t be one of those in terms of physically, when you would take a course there will be a predefined sequencing of when you will be taking the courses. Now, one of the interesting things that I need to think about is that say you’re interested in another course not to take it for credit or even audited but just to sort of peek in and view some of the lectures just as sort of a one-off experience. You know, I think that’s a good question
that you didn’t ask, but that one that I need to answer.

So I will actually think about that and consult with my colleagues because I think there would be a benefit to sort of having a key that you can unlock and you just watch a random video for your own interest in edification, not necessarily for credit or for the program sequencing.

That sounds great. That’s the question that I wish I asked that was, yeah thank you.

I don’t necessarily have a question. I just wanted to say a few things I wanted to thank you for this presentation. I was coming in, definitely with applying with settled on epidemiology track and I was having a hard time being overwhelmed with all these amazing options within the other three tracks. And I think now visiting these sort of informational sessions gave me a lot of clarity on how I want to supplement my chosen track and epidemiology.
And when it comes to new environmental health and the effects of environmental pollution pollutants on human health is rings very close to me because I was born slightly a few years before Chernobyl explosion in on the border of Ukraine and Belarus. I grew up in poster novel environment and it was, I mean everything was awful lives were governed by the often mass of the Chernobyl catastrophe. My family had resources to move away temporarily but we still had to come back because not all my family could move away. So, and I kept coming back year after year and seeing sort of the damages. And even though it’s almost been 40 years I think many substances have different half-life. So the scary part is that even 50 years there will be another some other element will be radioactive. And many of my friends, even though they Mo many of them moved away a relocated thyroid cancer followed down some got diagnosed here, you know years after exposure. And I think it will be a huge loss for me not to take a class, you know
in this track and to get a better understanding on the molecular level potentially. And, and yeah, I guess, to work with all of you or to, to, to work with all of you. And I learned from you and learn from your expertise in this field. Well, if I could just say thank you so much for sharing that because one of the things that I just mentioned is that in classes that I teach I also teach undergraduates the teaching about Chernobyl teaching, about Bhopal teaching about these things to them is it is a history lesson and that they have gotten so many of the lessons that we need to know, and we need to build into what we do that it’s really important to use these these events, to understand you know, hazard risk, environmental exposures. I, I happen to have done a time in the government with president Obama and was in charge of the response to focus Shima the focus Shima meltdown. And so these things are very much high in our our consciousness when we discuss these important environmental health issues.
So thank you.

- Thank you.

It’s amazing how it, I mean, how it is a history lesson, but it’s, it’s it’s still a reality for the populations even though it’s just not on our minds anymore.

Yeah. I mean, I think the initially early in early years we had radiation safety class where we had to put gas masks on.

And, but even then sort of for a really free really young students as we were really young students it was already a laughing matter, you know because we were all laughing about, you know just basically how we look funny in this gas masks, right.

More than what is protecting us from. And, and let’s, let’s be honest about it the young generation of environmentalist.

So, so concerned about how we respond to climate change that there’ll be happy to say, well nuclear is the solution, and let’s just go full into nuclear and just say, let’s be thoughtful about these things.

So having to provide that product context and letting people know those, those important issues
I’m so glad that you raised
that because it’s important to be thoughtful.
And I think, I mean
in terms of Chernobyl is definitely could have been
we could have learned a lot more
than we are learning from it now.
If the government was transparent, because
I think the reason why people were forced to forget as soon
as possible by not providing by
by hiding the records, medical records, wow.
Hundreds of thousands of medical records disappearing.
And so that not, not so that the, that couldn’t be being
between a clear link between the environmental exposure
and certain cancers, for instance
or a certain birth defects.
Definitely. I mean, even, I think it took a few days to
even tell people we were playing outside.
It rained in many places
depending on where winds went, and then
it was not the catastrophe wasn’t announced for a few days.
- Any other last questions, comments, topics of discussion.
All right, thank you again to everyone.
So much.
We hope to connect with you
in the coming weeks as always, we’re here to help. So don’t hesitate at all to reach out if you have questions, comments, concerns really anything you want to talk about in regards to the program. We are always here. I know almost all of you already, I’ve communicated with you have my contact information, but our office of admissions general contact is a great place to go and we can help direct you anywhere as needed. So thank you all again so much for your time and we hope you have a great rest of the afternoon. Thank everyone. Thank you.