[Transcript] Jos Prickaerts - "The train left the station without us”

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Katherine: 0:00
[00:00:01] So my guest for the first episode of neuroethics Police is an interesting academic. I will start by listing three interesting facts about him. First, according to Google Scholar, he has a total of 9940 citations. Pretty impressive. His favorite brain structure is the hippocampus, and his ultimate goal is to find the medical drug to cure Alzheimer's disease- very ambitious.
Katherine 0:30
[00:00:30] I am honored today to be interviewing professor Dr. Jos Prickaerts, a neuro psychopharmacologist at the School of mental health and neuroscience at Maastricht University in the Netherlands. Jos was a professor of mine for two years during my research masters and today I am happy to call him a colleague.
Katherine 0:51
Jos, good afternoon, and welcome to the neuroethics police podcasts. Can you please introduce yourself in a few sentences and [00:01:00] maybe describe your research very briefly.
Jos 1:03
Yeah, my name is Jos Prickaerts. Basically, I was trained as a biologist back then, nowadays, we would call it biomedical Life Sciences. And the brain is always interested me so I pursued more or less training in neuroscience. And I did my PhD in animal models for Alzheimer's disease. But I became also interested in the pharmaceutical industry along the way, so twice [00:01:30]I went to industry wants to Baer in Germany and wants to do Johnson and Johnson in Belgium. But eventually I found out that my that I like freedom, scientific freedom, so links to ethics probably too. So I came back to academia 14-15 years ago started my own research group. And this is where we are now.
Katherine 1:51
So you have experience in both academia but also in pharmaceutical industry. Okay, that's very interesting. [00:02:00] So a bit of your relationship with neuroethics. What is what is exactly your relationship with it? Do you consider yourself a neuroethics advocates? And by that, I mean, is your perspective on neuroethics positive? Do you promote it and encourage it in your work? And you implement it where necessary?
Jos 2:21
These are a lot of questions. Before I will try to answer them, I will have to go back a little bit what I'm doing maybe because at the moment I'm doing research, [00:02:30] and the main focus is Alzheimer's disease. So I want to find out what is going on in the brain of patients with Alzheimer's. But at the same time, I want to find new drug targets and develop new drugs to treat this terrible disease. The links of course, again, are still to pharmaceutical industry. And then I can come to the questions you asked related to ethics. So it was more or less like my relationship with ethics- well, it becomes more and more intense [00:03:00] I would say, and it is a different levels. And I mean the way you say it...
Katherine 3:09
you say the more you go in into your research and the more you get involved maybe with patients...
Jos 3:14
No, no, it's also but also it's ethics-now we have to start with becoming more and more incorporated into everything, it's emerging. It's everywhere. We'll discuss it that's important or not, but it is it is most evident because I work with animals and with humans, [00:03:30]so then you have two ethical committees to deal with so that's the most Yeah, for

the first thing you will encounter when when when work relates to ethics in my field. So you need animals so then you have to sell what are you going to do to the animals and that will cause discomfort but how much discomfort is acceptable for the research, and the same or less for humans by the way.
Katherine 3:56
That brings us to a bit animal, laboratory animal [00:04:00] ethics and more about the use of animals in research.
Jos 4:03
Yeah, absolutely.
Katherine 4:04
But what about in specific neuroethics? If now you're walking down the hall of the department and someone screams the word neuroethics? What's your first impression? What's the first thing that comes to mind? Is it is it positive? Is it scary? Is it ambiguous? What is it exactly for you?
Jos 4:22
Yeah. I won't. Yeah, I my first reaction is always what does it mean? because I'm still a bit with the ethics related to animals and [00:04:30] human resource directly. But I realize now it's becoming more implicated in everything. And one of the fields I thought to myself is, for instance, working with pharmaceutical industry. There's also ethics involved as a scientist. industry wants to make money.I want to do free independent research. There is some tension in between and also some ethical aspects you should consider. But ethics is also Yeah, I would almost say [00:05:00] Every level how you treat your colleagues.
Katherine 5:01
Yeah. Yes. Definitely. So you would say the involvement of neuro ethics or ethics in general, in your work in your scientific work can take many different forms and can shape itself whether you're working with animals, it has a certain implication whether you're working with humans, whether as you mentioned working with colleagues, so you believe it's really an integrated part whether it is spoken about or not. [00:05:30] Is that how you see it?
Jos 5:33
This but still.. it's a bit vague, and I think the definition is still developing, I would say what is neuroethics and I don't think it will be one thing only it will be- it should be diversified more. I think there are different levels of- or not levels- that's that sounds like more or less ethical levels, but I think it applies to different areas or aspects
Katherine 5:57
And you believe this this, this causes a [00:06:00] a problem or challenge to scientists that are trying to do their work when when there is no clear definition of neuro \ethics? Does that pose any challenge?
Jos 6:12
Absolutely. it poses a lot of challenges. And, yeah, you want to do animal research or human research, there are a lot of ethical things you have to consider. And these are more or less clear. But when you're outside this field, it becomes less clear. [00:06:30] Besides the ethical forms you have to fill in, then somebody says, "Yeah, is it ethical or you ask yourself, What am I doing? Is this ethical? Well, where can I find the guidelines for this?"
Katherine 6:43
Okay, that's that's a nice point, true yeah, that you point out it's a good, good, good thing,
Jos 6:49
But also my feel, for instance, the first time I learned about neuroethics was that 10 years ago, there was somebody doing or working in the field of neuroethics. I'd never heard of it. [00:07:00] And they meant that several testing drugs or developing drugs or making drugs Actually, for people who don't need them. So in my field cognitive enhancers, give it to students and healthy people. And you can consider more or less like doping. Is this

allowed? And this is that according to them, this is neuroethics. This was my first. This was the first time I heard the term. But now I realize it's much broader.
Katherine 7:26
Much broader than that. Okay, so when it comes if we want to [00:07:30] discuss a bit some about neuro ethics training, which kind of links to what you just said about the lack of of a good definition of neuro ethics? Have you personally ever received neuro ethics or ethics related training during your education or even your academic career?
Jos 7:47
Well, I'm afraid to have to answer this question with no ,never....except as part of the animal course.
Katherine 7:55
No, but in terms of course, or some kind of training as an up coming scientists. [00:08:00] And do you believe this is relevant or important?
Jos 8:04
Well, I think it's very relevant now. Because Yeah, we see it popping up almost everywhere. And I just told you I have a problem with the definition already, then it's also difficult to deal with it, we have to deal with it. So it will be handy if somebody tells me a little bit more about it. And it would even be better if the new generation of researchers is better prepared for this and trained.
Katherine 8:29
[00:08:30] And do you think this will shape them to be better neuroscientists or better scientists in general? What what what advantage does it bring a scientist to get some ethical training?
Jos 8:43
Well, reflection I think, on what you do. **I don't think you will become a better or worse scientist. That's... I don't think that's that's the issue. But it will help you to reflect more on what you're doing.** And in this case for this ethical model, I'd say if you're doing [00:09:00] genetic research you can make you can do genetic manipulations. So, I can take the example of what happened in China recently with the new CRISPR Cas technique, there was somebody there was somebody who made a created a CRISPR Cas baby I would say without really doing all the proper legal paperwork etc etc. Yeah, there was a lot of response and then the communities, scientific community there [00:09:30] the general governments etc, etc.
Katherine 9:33
So, this was stopped now and this is a good example that if there are no ethical / neuroethical guidelines, then scientists have the tendency to not be hindered by any then they are also not hindered by these things are not considering these, these these borders, which exists. And we realized, although I have to say most scientists are like normal people are [00:10:00] They consider things ,they reflect. It's tempting if you can go for a nice Bell prize or a nice career or etc. So then things are tempting. Yeah, some people will probably cross that thin line.
Katherine 10:14
I would say, yeah, this this case you're talking about it's happened in China. That that's that's an exception, right? Because there are international guidelines about the editing of gene editing of embryos, but still that person just went on despite the guidelines.
Jos 10:30
[00:10:30] There are some guidelines, of course, but still Yeah, the other people do it. So yeah,
Katherine 10:35
yeah. Which is so in that case with with what you think we can do more? Our guidelines now enough or...
Jos 10:45

Like you just mentioned, maybe we need more training or be aware of the guidelines. So when we have these are guidelines, that means is there there is not any legal consequence probably, but maybe we should in the future, add some legal consequences [00:11:00] to certain guidelines. It's still in development, also the legal aspect of this I think.
Katherine 11:06
So but that that person, that scientist went forward with this experiment, and probably jeopardize, let's say the health and the life of those newborn babies.
Jos 11:17
Or maybe improved?
Katherine 11:19
We don't know. Right?
Jos 11:20
But is it ethical?
Katherine 11:21
No, no. But the question is, how can we avoid? So we need training, we have the guidelines, we need to improve them, we need to maybe formulate them into laws. [00:11:30] But like, should we pause research on certain revolutionary innovations until we have discussed the ethical discussions and questions? How do you think should should the ethical implications of a certain innovation and the innovation or the evolution of this innovation- they go together?
Katherine 11:51
Should the innovation or the research around that stop while we answer the questions. What do you think like should they be [00:12:00] walking parallel to each other or....
Jos 12:03
First of all they should not be stopped, because science cannot be stopped. Okay. Thats the issue you know people are saying that's not allowed... as long as somebody would there may be pausing Some things are slowing it down or at least started discussion already. Yeah, we need to do something. Yeah, I do not have the answer right away. But we need to do something. I don't know the answer.... Again this is new fields. This is new territory. [00:12:30] And as a scientist, I would say also very interesting.
Katherine 12:34
Okay. Definitely. So that's, that's that's a tricky question, I would say. But there is a lot of opinions about some researchers considering ethics as a hindrance to their research, and many neuroethic neuroscientists, many not all, but don't really want to get involved so much in the debates. They are mostly [00:13:00] really want to they really mostly want to focus on the research at hand finding cures finding a drug. Why do you think it's a sensitive topic- ethics- when it comes to scientists? Why is it so sensitive?
Jos 13:16
Well there are two things, the first thing has to do more with the bureaucratic load. Unfortunately, when you have more neuroethics, it also means more guidelines, probably more rules. And that means more paperwork. And that's really exponential. [00:13:30] I would say that if I know getting a bit older, if I look like the last 20 years, I think it is increased maybe by thousand fold-the paperwork. Yeah. And also the time to get permission. So so that's a practical aspect. But okay, this is what we want. So, but if you continue and continue that the only question or a lot of the question that a lot of scientists have- me too-is where does it end? I mean, we're probably, it's always in development.
Jos 14:00
[00:14:00] But yeah, hindering research is one thing but stopping research is something else. But again, if society would decide in the Netherlands if there's consensus that we stop animal research, I mean, if everybody wants this, then I can accept this. Probably have to accept it. But the way it goes now it's it's it's a it's a strange discussion, I think, in a

way. So we want to stop because I want to stop there, but they don't offer us [00:14:30] alternatives or what is what is the consequence of stopping
Katherine 14:34
So you believe this kind of creates this tension between, let's say, scientists and ethicists?
Jos 14:40
Absolutely, there is a lot of tension and as long as there's dialogue, and no polarization, I think we're safe, but I feel and I see most with colleagues- it's polarizing now at the moment, it's not becoming as healthy as discussion. You're either for or against and that's really a nobody move in there.
Katherine 14:59
So it's a It's kind of [00:15:00] difficult to reach consensus. It's a it's a lot of discussion, a lot of debate. And it's not like you see a lot of polarization a lot of, for or against, very hard to reach consensus.
Jos 15:12
And there's a bit of discussion but also the feeling that we scientists, we want to do science we don't want to discuss and wants to do science. And we forgot this a bit, while the other people who are let me say more things, people who think we should start with [00:15:30] animal research or reduce a lot to have the dialogue with politicians, we forgot to join the discussion. So we, for the first train left the station without us so and now we have the consequences in the Netherlands. But I think, okay, again, if people want us to stop everybody, then I at least give me the chance to explain what the consequence will be.
Katherine 15:54
Okay, so you want a plan B, want a solution for for, yeah. [00:16:00]
Jos 16:01
Now we're talking specifically about ethics for animal research, but I would really go all the way I would say, okay, you don't want animal research for medical research. Then all the medicine we have at the moment, which is available for for humans, but got it based on animal research should also be banned now. Immediately. That will mean 95% of medicines available will be gone.
Katherine 16:26
Yeah, so that brings us back to...
Jos 16:28
Ya, but that I think, [00:16:30] yeah, maybe a bit black and white. But let's have a dialogue. How do we do with this? There's also something that's concerned. Yeah. And by the way, in China, they will continue research with monkeys get new medicines. Should we close our eyes for those because what ethical, so yeah, these are questions we have to discuss
Katherine 16:51
So what I understand from you is that let's say you live in a certain country where the regulations are stricter than other countries, then you're afraid you might miss out on maybe you [00:17:00] yourself creating the drug that probably you could have done with animals.
Jos 17:05
No no, what I mean, it's actually, again, it has to do with globalization, which is at all levels in the society and industry. We are now in the Netherlands. And we can make lots of rules and discuss things. But But look at the global you have to look at it as a global scale. Yeah, maybe you can also say, I don't care, but just start here and take this as starting point. Yeah. But again, it is a global issue. [00:17:30] neuroethics also,
Katherine 17:26
Yeah, that's true.
Jos 17:33
Is neuroethics of China the same with neuroethics in the Netherlands?

Katherine 17:35
Definitely not.
Jos 17:36
I don't think so
Katherine 17:36
Definitely not, the guidelines are different. I mean, I think there's a lot of effort to try to make those guidelines international know by having international consortiums or international conferences and meetings. But but you are right, it's still there's still an imbalance in that.
Katherine 17:57
How do you believe neuro ethics and neuroscience can collaborate together [00:18:00] for more responsible brain innovation, how do you think they can come together? In what form and what way? Is there something you can think of now maybe on the top of your...
Jos 18:13
Yeah, I'm afraid not really not really concrete. Let's go start with some training, some consensus, dialogues.
Katherine 18:23
But you made an interesting point that scientists have kind of forgotten to go all the way in terms of discussing their [00:18:30] research in terms of their implications for the public and policymaking and etc. Where do you think...
Jos 18:39
You also have to do that? I want to do science. Okay. No, but that's that's that's how a lot of people scientists react, of course, but it's reality nowadays in society, you cannot close also scientists, you cannot close your eyes for your environment. And what on scientists should be open for society and a general opinion [00:19:00], although for those not listening all the time of the discussion about ..Okay, it's, again, I would say, we have to start somewhere. **And it's really important that a scientist now realizes neuroethics is a reality. And yeah, we have to do something with it.** Is it relevant and have to ask yourself the question, is it relevant for me? Etc.
Katherine 19:27
Okay, so, and maybe just a few [00:19:30] sentences, where do you see the future of neuroscience? And two scenarios, the first scenario in the presence of neuroethics, and another scenario in the absence of neuroethics. How can you perceive the future of neuroscience and those two scenarios
Jos 19:48
With and without neuroethics? With of course, because without that would be, I would say almost a wild west. And with a we need with, but the question is, how do we do that? So that's the what [00:20:00]we have to find out now, but we need we need...we just talked about animals of human research, but also ethical things like working with all these colleagues, but also things like money now, we didn't touch upon it.
Katherine 20:11
Yeah, of course
Jos 20:12
You can. Yeah. If a company comes to you and says, we have a nice product, can you advertise it at a conference and we will pay your travel fee only the travel fee, but still, is it ethical if I accept this and things like that, so it's everywhere at every [00:20:30] facet of scientific research or so all these things you have to be aware of as a modern scientist.
Katherine 20:36
So I'm going to make it a bit easier on you. I'm going to give you four options on how you can integrate neuroethics and I want you to choose one of them and explain to me why. So here they go. First one is implement a neuroethics research within your bigger research, which is in this case Alzheimers disease. [00:21:00] Two take neuro ethics courses and

training which we've been discussing from the beginning. Three hire a neuroethicist in your group... I read this to you shaking your head...and for collaborate with neuroethicists on research related to your own.
Jos 20:37
Well, the second option, of course, otherwise...
Katherine 20:49
So to take neuroethics ethics courses and training...
Jos 21:23
How do you say...the consequence so yea that's what I would do it.
Katherine 21:28
Okay and why why is it so? So we already discussed it but maybe just like [00:21:30]summarize why do you think that's very important to take neuro ethics courses and training as a scientist?
Jos 21:37
Because then you're prepared for it, I would say then then then you can
Katherine 21:45
Then you know how to...
Jos 21:46
Digest it and think about it and think of a consequence and how you should implement it and it works better than somebody coming to me " You should do this."
Katherine 21:54
And you think maybe it will facilitate the discussion with neuroethicists, maybe release some tensions [00:22:00] if you already have some kind of background on on neuro ethical practices and neuro ethical
Jos 22:07
Yeah, of course it will. And by the way we have now a neuro ethics department, I think at this university also. And we were actually I think as a research school, all research schools are forced to pay this people in parts of that. Every school has now an affiliate of neuroethicicists and neuroethical. Yeah. But in practice, we don't really do much together. I'm afraid that could improve.[00:22:30] But again, if you train people, the next generation for sure, maybe I'm too old already. And then you pointed out to them, there is an ethical department to go to them, they can help you with if you're in doubt, or what should you do or not do? Okay, trading communication..these things.. guidelines.
Katherine 22:49
Nice. Okay.So just to sum up our conversation. So you considered yourself as a neuro ethics advocate I would say at the beginning of this [00:23:00]talk has has it....this conversation maybe strengthened your your advocacy, I would say for neuroethics and what what has really inspired you in this conversation and what what would what are your..yeah, takeaway home messages for yourself?
Jos 23:18
Again, many questions.
Katherine 23:19
So again, so the first question, so do you... has this conversation, maybe increased your advocacy for neuroethics?
Jos 23:30
[00:23:30] No... no, but this is again, shown me that it is important. So I would also not use the word inspire I would use the word, how do you say, acknowledged or confirmed that it is very important, okay. But it's not that I'm now going to advocate it or...okay. It's fine. me but it is very important. Actually. I'm waiting for somebody coming to me and help me with this.
Katherine 24:00

[00:24:00] okay, so so there's not so much that you believe you can do but you're hoping that someone that that may be, yea, this field as itself neuroethics would probably become... yeah, get more involved and...
Jos 24:16
Dialogue that somebody comes to me.. not only telling me maybe it's not you should be careful respect to using animals than I will. But I will also like to discuss it's not maybe ethical if you let people die of a disease maybe that [00:24:30] you could maybe treat
Katherine 24:35
you want to dialogue. You want concrete answers, not just okay, we gotta stop.
Jos 24:42
Not only the animals again, it's much more diverse, neuroethics...giving drugs to people who don't need it, accepting money, which is a bit you could say not ethical, treating your college in a non ethical way. I mean, there are so many [00:25:00] many implications for neuroethics I think. So that's also something you have to consider. I think it could develop into a really nice field on its own with sub disciplines. I'm serious. I'm saying, Yeah, I think it's too easy to say "this is neuroethics"...it will develope into something much bigger.
Katherine 25:21
So you believe it, it's probably stronger on its own and not necessarily in collaboration with neuroscience. So you don't see those two fields may be [00:25:30] joining each other. And so at some point, you believe they have to remain as separate fields?
Jos 25:36
No, no, I think neuroethics will just be like biology or psychology or field or its own with sub disciplines. Yeah. And also with links to different or different fields again, and then now, I'm doing medical research, but somebody else is doing something completely different and an effort for companies there are other things less or more ethical to consider. [00:26:00] I mean, that's already at it will be. You need specialists like, a lawyer if you do law that you have a patent lawyer, your lawyer for divorces, I mean different specialization to need.
Katherine 26:15
Okay. So without further ado, I want to thank you for joining me on this interesting discussion. And the neuroethics police dismisses you with no additional charges. [00:26:30]
And we thank you so much for your honesty and your and your opinion and voicing your opinion. And yeah, we hope to inspire other scientists and students to contribute to the discussion, which is yeah, proving to be more and more important, and especially in the fast evolution of neuro technology and medicine and related scientific fields. So thank you.
Jos 26:56
Absolutely agree. And you're welcome. [00:27:00]

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