

## Meeting Transcript

[0:00:01] John Holmes: So, so I'll start, I'll go back one step. So what you're seeing is  
[0:01:02] David Ewing: Is that just like a flipping of a coin, or is there some mechanism?  
[0:01:14] John Holmes: well, that's this, and so that's what I was going to say next. So  
[0:02:20] John Holmes: So you could do something like this now, because no doubt they will  
[0:02:37] John Holmes: because I see Their example they use as a Bayesian logistic program  
[0:03:10] John Holmes: I made a random mental state model.  
[0:03:26] John Holmes: Because one of the things I want to say that never really gets to  
[0:03:52] David Ewing: sure what? No, sure that sounds great.  
[0:03:57] John Holmes: Well, one of the things because in this doesn't require you to do  
[0:04:15] John Holmes: difficult example, because you can actually see it in a can. So i  
[0:04:32] David Ewing: at it right now on, yes, yeah.  
[0:04:34] John Holmes: So if you go to page 19,  
[0:04:36] David Ewing: oh, I don't have page 19, it goes to, it's dark. It's got page 47  
[0:04:42] John Holmes: no, no, no, I'm looking at the top. How many pages are in the doc  
[0:04:50] David Ewing: What was the section? What's the section name? Um,  
[0:04:54] John Holmes: it's in the discussion.  
[0:05:03] John Holmes: Figure seven marginal posterior distributions of components of be  
[0:05:19] David Ewing: Okay, I'm in the discussion. Sorry. I just got here. Now you're in  
[0:05:24] John Holmes: Yeah, I'm looking at one of the figures. Oh,  
[0:05:45] John Holmes: um, with these showing density plots.  
[0:05:50] David Ewing: Density plots.  
[0:05:53] John Holmes: It might not be in the final version, but it was in the archive ve  
[0:05:59] David Ewing: Oh, yeah, yeah, I know what that is, yes, I got that. Yeah,  
[0:06:05] John Holmes: you the reason I was bringing it up is this one parameter in ther  
[0:06:20] David Ewing: Bottom Right, yeah.  
[0:06:25] John Holmes: The the last one, yeah. Now that one corresponds to a that one co  
[0:06:55] Speaker unknown: estimate. Okay?  
[0:07:00] David Ewing: This, this, of course, is Gaussian, right?  
[0:07:03] John Holmes: Yes, yes, but it's much the the zeta, the zeta, it's much harder  
[0:07:53] David Ewing: The random effects have what  
[0:07:58] John Holmes: it's I see it's shrunk. So one of the things they don't emphasize  
[0:10:16] David Ewing: I read about that, yeah. Then what  
[0:10:19] John Holmes: you would get from MCMC, and the reason is, variational bays does  
[0:12:21] David Ewing: Now you're saying that you can't, if they're strongly correlated,  
[0:12:27] John Holmes: can't be in separate blocks. Okay, okay, because what you will fin  
[0:12:37] David Ewing: okay, so  
[0:12:39] John Holmes: you could do that as an example. And the second thing you can do  
[0:13:54] David Ewing: Okay, now there's a, there's a, actually, I saw a formula for doing  
[0:14:30] John Holmes: Yes, that would that's more or less the same thing. They'll be ok  
[0:14:33] David Ewing: there's a variance ratio that you end up taking and getting relate  
[0:14:45] John Holmes: Yes, yes. So they'll be comparing the posterior variance from the  
[0:15:03] David Ewing: Okay, yeah, I saw that in at least two papers.  
[0:15:07] John Holmes: Yes, because it's a it's a very common practical thing they will  
[0:16:34] Speaker 1: And it's top at the

[0:16:40] John Holmes: Same connect.  
[0:17:01] John Holmes: So this what I'm about to bring up on the share screen. Fingers c  
[0:17:15] David Ewing: I'm gonna move you around so I'm not really looking at sign.  
[0:17:19] John Holmes: So this is an example of variational Bayes that I have been doing  
[0:18:52] David Ewing: Yes, you have now it's four, four or six that are basically in co  
[0:18:58] John Holmes: Yeah, yeah, I've got two. And then, yeah, these two columns and f  
[0:19:21] David Ewing: What would I guess, what? What is it that would be what you conside  
[0:19:28] John Holmes: get to you? Okay? My apologies, because I'm going to show you the  
[0:20:25] David Ewing: the MCMC is, is the one you had VB, whereas the HMC is the Hamilt  
[0:20:31] John Holmes: Yeah, so the red and the green are both examples of MCMC. Oh, ye  
[0:20:35] David Ewing: Oh, sorry, I was looking at the Bottom. Bottom one. You said that  
[0:20:41] John Holmes: Right? You know, all three of these are difficult. They're just d  
[0:23:12] Speaker unknown: this written up.  
[0:23:20] John Holmes: Now, the reason I am going to rent so much about that is the real  
[0:26:08] David Ewing: Okay, but Dr John, this is where I screwed up last time, when I en  
[0:26:30] John Holmes: about that's why there needs, you need to, that's why, for the rep  
[0:28:14] David Ewing: are constructed, yes,  
[0:28:18] John Holmes: and that's and that's why I was ranting about the use of Q, it pu  
[0:31:42] David Ewing: Okay? Can we stop there?  
[0:31:45] John Holmes: Yes, we can. Okay,  
[0:31:49] David Ewing: alright. Thank you very much. Let me get this written up, or I'm g  
[0:31:54] John Holmes: Thank you.  
[0:31:55] David Ewing: The thing is, well, so we have that in straight  
[0:31:58] John Holmes: Yeah, and I'm sorry it is going to have to be a zoom call with yo  
[0:32:03] David Ewing: Okay, no, no, no, that's no problem. The thing about it is next w  
[0:32:13] John Holmes: that's fun. Okay?  
[0:32:16] David Ewing: And I was giving the time just changing those names.  
[0:32:19] John Holmes: The week after next, we can do it in person, because I'm probably  
[0:32:24] David Ewing: again week after next, what  
[0:32:26] John Holmes: I'll be likely back in Christchurch? All  
[0:32:30] David Ewing: right, that sounds good.  
[0:32:32] John Holmes: Excellent. Bye.  
[0:32:33] David Ewing: Thank you very much for Your time. Bye. Cheers. Bye.  
[0:32:45] Speaker unknown: Whoo  
[0:35:12] David Ewing: see what we've Got.  
[0:38:39] David Ewing: Do this. Let's leave.