

U.S. Senator Maria Cantwell

Q&A with Witnesses at Senate Commerce Committee Hearing entitled, "Legislative Hearing on the Endless Frontier Act"

Witnesses: The Honorable Dr. Kelvin Droegemeier, Regents Professor, University of Oklahoma, and former Director, Office of Science and Technology Policy, and former Acting Director, National Science Foundation,

Dr. Marie Lynn Miranda, Provost, University of Notre Dame,

Dr. David Shaw, Provost and Executive Vice President, Mississippi State University,

Ms. Linden Rhoads, General Manager, The W Fund,

Dr. Gary Butler, CEO, Camgion,

Mr. Bill Bonvillian, Senior Director, MIT Office of Open Learning, Lecturer

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Cantwell: Thank you, I'm going to ask questions now because I want to follow on what Senator Thune and some of the other questioners have been asking, which is really to get to the crux of this issue of how do we grow ecosystems where they're not as robust, and how do we take advantage of ecosystems that are already pretty robust and continue to grow them as well. And so my question, I think, to Linden Rhoads is, you know, exactly, you know, when you did five or six things at the University of Washington which was basically to bring the entrepreneur ecosystem into the university, is really what you did, and help fund it, whether that was writing patents or helping with various ways, you know how applicable is that model to other institutions across the United States, and should we be giving some of the R&D money to that building capacity at universities?

To the rest of the witnesses, to what degree, Dr. Shaw or Dr. Miranda or Dr. Droegemeier, to what degree does the Rose Hulman model, where you're basically a fee for service, you have a regional hub, everybody's going to that hub, and basically saying, solve my next generation technology problem. And in that case, there isn't a big, you know, NSF dollar amount, I mean there is some, but, you know, people teach there because they want to teach, people don't teach there because they're going to publish their next NSF research, and yet they have become a hub for solving a lot of regional, very great innovation programs. Or to what degree does Dr. Butler's point about having a DARPA model, where basically you're giving contract to companies to help solve that problem?

So I don't know which one of you now in the testimony basically said, start at a higher level, get the companies in the sectors communicating at the higher level of NSF funding, and DOE funding for that matter, and then keep the relationship going throughout the system. So, my question is, there's three different things that we already know right now that are working: the DARPA model's working, a fee for service model, and this helping big research institutions do more R&D by bringing the entrepreneurship. So Linden, I'm going to start with you. How much do you think the University of Washington model could be translated to other institutions?

Linden Rhoads: Well I think it's a very perspicacious question because unfortunately, there isn't a cookie cutter model that fits for every region or university, depending on its starting point and its issues and gates. And by way of example, when I started at UW, several experts mostly in computer science told me, "This is simple, fly down to Stanford, meet with their head of tech transfer, just do exactly what they do." But, Stanford was located a mile from the largest constellation of venture capitalists in the history of the world, and their challenges--our challenges at the University of Washington, where we're a remote Northwest corner of the continent and a flight away for most investors, and even though we have many vital industries, we don't have anywhere near the kind of nexus between industry and

investors and our researchers, couldn't have been more different. And we needed much more heavy lifting therefore for our researchers. So what was working for this one very accomplished university in terms of translation wouldn't have been sufficient for us.

And so, I think, you know, I don't know that there's an easy answer, but I don't think that everything that works in one place works elsewhere, and I do think unfortunately that you need this full panoply of services to synergistically interact between funding and mentorship and IP support to really get the results we're looking for. And so in some cases, one university may be able to, with adequate funding, provide those for itself. In other cases, you may need regional collaboration and support. And lastly, I'd just like to say, apropos of one of the things you just mentioned, that I think the ICORE program the ICORE hubs program at NSF has launched, my colleagues in tech transfer really laud those programs and that they train researchers to pursue customer directed discovery and focus on the end user. And I think that any programs that do that are very helpful to what we're all looking to see happen.

Cantwell: Dr. Shaw, quickly?

Dr. David Shaw: I would certainly wholeheartedly agree with everything that this witness said. The three things that I will touch on quickly in addition to that is I think the call for closer coordination with other agencies, for example, the Department of Commerce funds our CAVS Extension Center to be able to work with manufacturing entities to do problem solving and to be able to grow manufacturing capacity in our state, I think is a really important aspect that needs to be covered as we consider this. I think that the very fact that Camgain Microsystems is located in our Thad Chochran Research and Technology park, the creation of that ecosystem in which developing businesses can have the opportunity to work closely in partnership with our faculty is incredibly important. And then finally, the entrepreneurship center that we have located our campus that really is focused on student entrepreneurship, and the opportunity to bring business students and engineering students to be able to create new businesses is incredibly exciting and needs to be recognized as a part of this effort.

Cantwell: Dr. Droegemeier, anything?

Dr. Kelvin Droegemeier: No.

Cantwell: Okay. Anybody else? Okay.