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Episode 12

## DATAWorks 2023: Day 3 Attendee Reactions



**Guests:** Curtis G. Miller, Mark R. Herrera

**Host:** Rhett A. Moeller

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Institute for Defense Analyses  
730 East Glebe Road  
Alexandria, VA 22305



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### **About This Publication**

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### **For More Information**

Kelly M. Avery, Project Leader  
kavery@ida.org, (703) 845-2265

Vincent A. Lillard, Director, OED  
vlillard@ida.org, (703) 845-2230

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# 1. DATAWorks 2023: Day 3 Attendee Reactions

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IDA Ideas host Rhett Moeller spoke to Curtis Miller and Mark Herrera, researchers in the IDA Systems and Analyses Center, about their experiences as attendees on the last day of the Defense and Aerospace Test and Analysis Workshop (DATAWorks) 2023, held at IDA in Alexandria, Virginia, on April 25-27.

**[Begin transcript]**

**Rhett Moeller:** Hello listeners, I'm Rhett Moeller. I am the host of IDA Ideas, and welcome to another special podcast short as we cover one last day of attendee reactions at this year's DATAWorks event at the Institute for Defense Analyses or IDA. DATAWorks is the product of a collaboration between IDA, the Director of Operational Test and evaluation (DOT&E) the National Aeronautics and Space Administration (NASA) and the American Statistical Association (ASA). This is the eighth annual meeting and IDA has had the honor to host this professional event from its headquarters location in Alexandria, Virginia. Like yesterday, today's agenda was focused on short presentations and speed sessions with a continued emphasis on testing and evaluation, machine learning and statistical evaluation. We've gotten to meet some great guests this week and today I'm happy to continue this as we welcome Curtis Miller and Mark Herrera, both from IDA's Operational Evaluation Division or OED. Thank you for joining us in the studio and for chatting with us about your experience.

**Mark Herrera:** Happy to be here.

**Curtis Miller:** Good to see you.

**Rhett Moeller:** I'd like to ask you just to take a moment to introduce yourselves, provide a bit of educational and professional background, Curtis, why don't we start with you?

**Curtis Miller:** All right. My name is Curtis Miller. I am a research staff member at the Institute for Defense Analyses. I previously got a Ph.D. in mathematics from the University of Utah. I work in the Operational Evaluation Division as a statistician, primarily. So, I provide a lot of statistical consulting, especially on naval warfare activities and programs.

**Rhett Moeller:** Great. Welcome, Mark.

**Mark Herrera:** Hi, I'm Mark Herrera I am a research staff member here at IDA, OED. I am also a project lead for the Navy Cyber Task and my focus falls in machine learning and cybersecurity for large naval platforms. My training is formerly as a physicist, but now I just do fun stuff.

**Rhett Moeller:** Great, welcome. You have just finished three days of presentations, discussions and interactions. What did you attend and why? And if there was a standout moment in particular in any of this, what was it? Curtis?

**Curtis Miller:** Well, let's see. Today, I mean, I've attended a number of talks and for me, the standout moment was my own. But, let's see, today in particular, I attended the keynote speech by the Honorable Christine Fox. She talked about a number of her concerns of ways to improve what's being done in the Department of Defense. She previously was the cape actual and to hear her comment on various programs I thought that was rather insightful and interesting,

**Rhett Moeller:** Great.

**Curtis Miller:** And the panel on AI along with some talks on uncertainty quantification, a number of talks on the organization of DOT&E, and DTE&A, some of the other test and evaluation associations that we interact with, DOT&E particular being our primary sponsor.

**Rhett Moeller:** Right, glad you had that opportunity. Mark, what about you?

**Mark Herrera:** So, I've had the pleasure of being with DATAWorks for the last two days, and I had the extreme pleasure of sharing the cyber section, which I very much enjoyed. I got a sense from both inside DOT&E, inside DOD, and outside in the National Labs. What people are focused on, you know, where the tricky rocks are that we need to deal with. I will say for today, I very much enjoyed the panel on AI Assurance. It was good to see some old friends again and they had a perfectly placed talk in terms of it was accessible to a large audience, but at the same time, technical enough to be useful to practitioners, and I thought they did an excellent job.

**Rhett Moeller:** Great. Well, it sounds like it was worthwhile. One of the great things about a large in-person event like this is that you get to be around lots of other people who are thinking about, working on the same problems you are. In your time this week, was there something you experienced that caused you to look at your work differently? It could be a presentation poster session, maybe someone, you had a chat with a fellow attendee?

**Curtis Miller:** Well, today there was a, let's see, a mini tutorial. That's what they're called. The one and half hour.

**Rhett Moeller:** Right.

**Curtis Miller:** Yeah, one of those sessions on modeling and simulation, which is one of the activities that I focus on a lot in my practice. And at the end of that presentation, I was able to go up to the person and ask him a burning question that had been on my mind, which is whether model calibration, something that is a part of a developing and quantifying uncertainty for modeling and simulation systems, whether that can be used for inference for parameters, basically turning a modeling and simulation environment into some other model. The example being like, if I wanted to infer infection rates in different states, using an SIR model, susceptible, infected and recovered model, which is some complicated mathematical model. Could I could I do that and also quantify

the uncertainty? And it turns out the answer is yes. That had been something I've been wondering about for a very long time, and being able to get an answer on that was very helpful for me.

**Rhett Moeller:** Great, Mark?

**Mark Herrera:** Yeah. So, I will say that there was a very nice thread of commonality and I guess motivation in all the talks. So, I mentioned the panel this morning and we talked about how do you learn how to trust an AI and what does calibrated trust mean? And then this afternoon I went to a talk by Carianne Martinez, I believe, Sandia National Labs. It was one of the national lab meetings. So, our peers and friends in DOE, and it was great because it opened my eyes to new technical ways that we can learn to trust our systems. Right, there's some relatively low hanging fruit that we should be doing both as a department, as a nation, and frankly, as good human beings, to make sure that the machines don't overtake us.

**Rhett Moeller:** Good. So big events like DATAWorks gives you a chance to get together with peers, with colleagues, and that sort of thing. And of course, when you get people together that are thinking about the same things, there are all sorts of advantages. Can you tell me a little bit about that?

**Mark Herrera:** So, I was very impressed by the quality of the student posters. I think it was probably the most I've seen ever at a DATAWorks talk, and the ability of the students to talk with such confidence and excitement about what they're doing. It brought me back to my times as a grad student and how much I miss that part of my life. And it was, it was wonderful.

**Curtis Miller:** I've had a few people who have worked with me, some more junior staff, and DATAWorks was an opportunity for them to meet a lot of the important individuals that we work with as a part of any enterprise. Like, for example, even just giving a poster presentation standing right there. One of the people that I've worked with, she was able to meet the people who were working on that M&S environment. She was able to meet important members of DOT&E, she was able to meet our division director just standing there at the top of the stairs. That was pretty important for me that she was able to meet those people, which, all at once, because some of those people are coming from across the country to meet here. Right? So, it was, it was pretty valuable.

**Rhett Moeller:** Well, it sounds like it was time well spent and that you had plenty of opportunities to get not only confirmation for things that you've been wondering about, but also, you know, just exposure to new things and ways of approaching the problems that you're trying to tackle. So that's, that's good news. I'm glad that this has proven to be a worthwhile week for you. With the conference officially concluded today, there's a lot to chew on based on your experiences this week, do you think you'll be likely to attend next year's DATAWorks?

**Curtis Miller:** Oh, certainly.

**Mark Herrera:** Oh, absolutely. It's one of the, I would say high points of my year, getting to see old friends again, meet new friends and learn new things.

**Rhett Moeller:** Great. Well, Curtis Mark, I want to thank you both very much for taking just a few minutes at the end of a busy day to chat about your experience. I'm glad that I had a chance to get to speak with you and to know that you found this to be a useful conference.

**Mark Herrera:** Our pleasure. Thank you.

**Curtis Miller:** Yes. Thank you for having me

**Rhett Moeller:** Listeners. Are you looking for more information about DATAWorks? Then check out our show notes for the link for more insights about the previous day's events. Be sure to check out our conference coverage from Tuesday and Wednesday. And while you're at it, don't forget that we have other episodes that cover topics of interest to the Nation's defense. Check out your podcast platform of choice for our past discussions. Thank you for joining us for this special coverage. If you haven't already subscribed, do that now to stay up with all our releases throughout the year, we record more in-depth discussions with researchers who are tackling problems that have bearing on the nation's security. And if you found this week's content interesting, you'll be sure to benefit from our other episodes as well. As always, thanks for tuning in and we hope you'll join us again next time as we discuss another big idea here at IDA Ideas.

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