

## Shepard Award Winners, Part 2: Dr. Tracie Williams

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[Dr. Gaynes] Welcome to MMWR's look at the scientists inside CDC. I'm your host, Dr. Robert Gaynes.

This is another in a short series of interviews with recipients of the prestigious Charles C. Shepard Award, which is presented annually to a CDC scientist in recognition of his or her work, the impact of that work on public health, their professional leadership, and recognition by peers. We are privileged to be speaking with this year's winner of the Shepard Laboratory and Methods Award, Dr. Tracie Williams.

Dr. Williams is a Research Chemist in the National Center for Environmental Health. Dr. Williams holds a Ph.D. in Analytical Chemistry from the University of Florida and a Bachelor's degree in Chemistry from the University of Texas at Austin. Congratulations and welcome to the show, Tracie.

[Dr. Williams] Thank you; glad to be here.

[Dr. Gaynes] Tracie, you've been with CDC for 3 years now; how did you come to work here?

[Dr. Williams] Well, I am a mass spectrometrists by training, and I work with proteins, so if an organism has a protein I can work with it. But I worked at the FDA six years prior to arriving at the CDC and there I worked on food-borne pathogens. And at the time I liked what I was doing, and who I was working with, but I wanted to expand my scientific expertise into areas other than *E. coli* and salmonella. The CDC's Division of Laboratory Sciences had an opportunity for someone with protein experience to work in influenza and so I took the job, and I've been working on influenza for the past three years, but I'm surrounded by people who work with anthrax, botulism, ricin, staph, strep, tuberculosis, and that is the part of CDC that I like.

[Dr. Gaynes] Tracie, you won the Shepard Award for some work that deals with the influenza vaccine. Can you tell us a little about that work?

[Dr. Williams] Well, as you know, vaccination against the influenza virus is the primary strategy for reducing illness and death associated with seasonal influenza, and the formulation of this vaccine requires a preset amount of hemagglutinin, which is a protein that elicits a protective response in your body against the virus. The current methods for quantifying the amount of hemagglutinin is an indirect measurement, and it's subject to a lot of experimental variability, and requires several months in order to generate the reagents needed to make the measurement. This is a problem that our collaborator, Dr. Ruben Donis from the Center for Infectious Diseases, brought to us and asked us if we could use our analytical tools to try to address.

Our paper is about a very powerful technique, mass spectrometry, that is able to quantify the amount of hemagglutinin in a vaccine with more precision, accuracy, and speed. It is the hope

that this method will be incorporated into the vaccine manufacturing process, which will reduce the time that it takes to get a vaccine to the public.

[Dr. Gaynes] Tracie, your publication actually won two awards, the Shepard Award and the CDC ATSDR Honor Award. How do you feel about your recognition?

[Dr. Williams] I would say that we were very surprised. The competition was very stiff. There were a lot of very good papers up for the Shepard Award, but we of course, are honored and very happy about it.

[Dr. Gaynes] What is your proudest or most satisfying accomplishment?

[Dr. Williams] Well of course winning the Shepard Award was very satisfying, but I would say working with a great team, and working with the vast number of projects that we have going on has been very rewarding as well.

[Dr. Gaynes] Tracie, can you give us some insight on your current work?

[Dr. Williams] Well, I work as part of a team and our team is currently investigating several different areas. One area is looking at the subtle differences of hemagglutinin to see if we can distinguish between confirmations of the proteins that would elicit a better immune response. Also, they are putting in adjuvants into the vaccine, and we'd like to be able to see what that does to the protein. In addition, there are other viral proteins that are implicated in drug resistance for the influenza vaccine. All of those are areas that our team is working on.

[Dr. Gaynes] What are your future goals?

[Dr. Williams] Well, like I said, I am a protein chemist, so there are a bunch of different areas that we could work on, that our team could work on, not just influenza. We do have a lot of different projects going on in our group, and I would just like to continuously look for collaborators, because they are the ones that have the problems. We have the tools to solve those problems. When you work at the CDC, and you have family and friends always suggesting what diseases you need to be working on, alzheimers is a top contender right now. I don't know if our group would ever get there, but I would like to.

[Dr. Gaynes] Tracie, thanks for taking the time to talk with us, and congratulations again on your great honor.

[Dr. Williams] Thank you.

*[Announcer] For the most accurate health information, visit [www.cdc.gov](http://www.cdc.gov) or call 1-800-CDC-INFO, 24/7.*