

Secret Lives of Mathematicians

DR. CARLA COTWRIGHT-WILLIAMS (DEPARTMENT OF DEFENSE)

Abstract: Mathematics can be more than just a subject in school; it can be a career. The government is the number one single employer of mathematicians in the country. Many of those mathematicians end up at the National Security Agency, where they find careers in research, information assurance, and cryptanalysis. This talk will be an introduction to the roles of mathematicians at NSA, as well as basics of cryptography.



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Dr. Carla Cotwright-Williams serves as a Technical Director within the Department of Defense (DoD). She served as the first Chief of Data Science and Artificial Intelligence at the Joint Artificial Intelligence Center (JAIC) - the DoD's Center of Excellence for AI. She's also worked as a data scientist. Prior to working with the DoD, she began her public service in academia - serving over 10 years in research and teaching. She has conducted research with both NASA and the U.S. Navy. In 2012, she was awarded the American Mathematical Society (AMS) Congressional Fellowship. During her time on Capitol Hill, she worked as a staffer on the majority staff of the U.S. Senate Homeland Security and Government Affairs Committee. In addition to covering a number of policy areas, she worked on the congressional hearing examining emergency preparedness surrounding the 2013 Boston Marathon Bombings.

She has served as a Hardy-Apfel Information Technology (IT) Fellow at the U.S. Social Security Administration headquarters in Baltimore, MD. As an IT Fellow, Dr. Cotwright-Williams worked on a variety of high-profile agency IT projects including creating fraud analytics in the Office of Anti-Fraud Programs and the launch of SSA's cloud infrastructure (Enterprise Data Warehouse (EDW)) whose primary goal is to improve accessibility to a critical asset, its data.

Dr. Cotwright-Williams is the chair of Policy and Advocacy and a member-at-large for the Executive Committee of the Association of Women in Mathematics (AWM).

Dr. Cotwright-Williams holds a Ph.D. in Mathematics. Prior to that, she earned her bachelor's degree in mathematics at California State University, Long Beach. A 2019 autobiographical paper entitled *Mathematicians Journey to Public Service* was published by Springer. She has been an invited speaker and panelist across the U.S. speaking to audiences about her research, career transitions, and mentoring.