<u>Biography – Kimberly Sablon</u>

Dr. Kimberly Sablon received her PhD in applied physics with a focus on nanophotonics from the University of Arkansas in 2009. She has published more than 60 peer-reviewed papers and contributed to ten scientific and technical books. She performed a set of critical reviews to identify technological challenges and research opportunities in the areas of reconfigurable multimodal sensing, communications, cognitive autonomous systems, AI-controlled networks and generative AI that could offer the greatest benefit to the Department of Defense while assessing the risks to national security.

In her current role as the Principal Director for Trusted Artificial Intelligence and Autonomy at the Office of the Assistance Secretary of Defense for Critical Technologies, Dr. Kimberly Sablon leads and coordinates scientific and technological efforts to ensure DOD superiority in future cognitive autonomous systems and hierarchical networks placing much emphasis on testing, evaluation, verification, and validation of dynamic AI systems. To accelerate development of AI-enabled systems and critical enablers, Dr. Sablon has set a strategic vision that is centered around AI systems engineering taking into consideration complexities of the real-world environment. Her strategic vision reflects the need for an advanced intellectual and research base in critical areas, which includes multimodal and interactive trusted perception, Warfighter-in-the-loop design, development and training in live, virtual and constructive environments, autonomous cognition and prediction, distributed, hetero-hierarchical AI architectures to enable edge intelligence, autonomous networks of autonomous systems, and continuous adversarial testing and red-teaming to enhance resiliency of AI systems against adversarial manipulation and deception along with development of approaches for recognizing machine-generated deception. Considering AI operation in autonomous systems requires novel hardware, Dr. Sablon works closely with industry to ensure development of hardware with embedded intelligence to support continuous learning at the edge taking into consideration limited energy budgets and weight constraints. Furthermore, in this role, Dr. Sablon has put in place key initiatives to include a Center for Calibrated Trust Measurement and Evaluation (CaTE) that will serve to operationalize responsible AI for the DOD, AI hubs clustered around imaging processing, signal processing and decision making, and a Community of Action with focused integrated product teams to accelerate AI capabilities for the DOD.

In her previous position as Director of Army Science and Technology, Army Futures Command, Dr. Sablon developed a pipeline for innovation in areas such as AI-controllable networks, distributed AI with emphasis on decentralized architectures that can adapt to the changing electromagnetic environment, control data rates and spectrum requirements, neuromorphic cyber, and Soldier-AI system adaptation. To accelerate development of a strong AI base while ensuring security of these systems, Dr. Sablon led the development of Army S&T strategies across the Army priority research areas to include emerging cyber technologies. Her strategy emphasized development of dynamic, self-learning information systems capable of detecting and isolating threats to provide effective response to suppress sources of attacks, and to reason about deception in a way that would ensure secure operation of the of AI-agents while making our Warfighter less vulnerable and more lethal.

Considering the rapid changing landscape of AI-based technologies and its potential to change the game for sensing, navigation, human-AI teaming and communications, Dr. Sablon continues to work with the broader research and development ecosystem to ensure the DOD is equipped with the right technologies to defend our nation.