## The Army Cyber Institute: The U.S. Army's Cyber Think Tank

**COL Jim Raftery** 



n his introduction to the Fall 2022 issue of *The Cyber Defense Review* (CDR), COL Jeff Erickson, the Army Cyber Institute (ACI) director at the time, opened with, "The only constant in life is change," a phrase credited to the ancient Greek philosopher Heraclitus. COL Erickson went on to relate this idea via a list of impactful changes that had occurred within the Army's Cyber Community in the decade since the ACI's founding in 2012. Three years earlier, the Secretary of Defense had directed the establishment of U.S. Cyber Command as a subordinate unified command under U.S. Strategic Command, followed in 2010 by the stand-up of the U.S. Army Cyber Command. COL Erickson recounted that during this period, "the Army was trying to figure out the best approach to address the uncertain environment and growing demand for deeper understanding" in cyberspace. In my estimate, the Army saw risk in the uncertainty and took action to address and mitigate that risk by directing the creation of the ACI at West Point. Internally, the creation of the ACI was carried out by members of the Department of Electrical Engineering and Computer Science, among whom were then: COL Greg Conti, COL Tom Cook, and COL Gene Ressler. This team was advised and supported in its efforts by then, Dean of the Academic Board BG Tim Trainor and Superintendent LTG Bob Caslen. ACI was designed to be externally focused as the U.S. Army's Cyber Think

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## THE ARMY CYBER INSTITUTE: THE U.S. ARMY'S CYBER THINK TANK



**COL Jim Raftery** is the Head of the Department of Electrical Engineering and Computer Science (EECS) at the United States Military Academy and is a Professor of Electrical Engineering. He was commissioned into the U.S. Army Signal Corps as an ROTC Distinguished Military Graduate from Washington University in St. Louis in 1988. Following command of the 261st Signal Company in Hanau, Germany, he became a member of the Army Acquisition Corps, culminating as Product Manager Information Warfare at Fort Meade, Maryland, from 2007 to 2010. He earned a M.S. in electrical engineering from the University of Missouri - Columbia in 1996 and a Ph.D. in electrical engineering from the University of Illinois at Urbana-Champaign in 2005. He is a 2011 graduate of the Army War College and served in the Cyber National Mission Force at Fort Meade, from 2015 to 2016. His research interests include semiconductor lasers, as well as topics in power, energy, and cyber.

Tank and was organized to report directly to the U.S. Military Academy (USMA) Superintendent. Starting with the visionary leadership of its first director, COL Conti, ACI made contributions to several of the items called out in COL Erickson's list. ACI helped define and address the uncertainty, and today many of those early risks have been mitigated or retired. However, as Heraclitus offered, change is constant, and new risks, challenges, and opportunities continue to arise.

In this vein, recent changes have come to ACI. In May 2022, following coordination with external stakeholders, then Superintendent LTG Darryl Williams directed the movement of ACI from a direct report into the Office of the Dean. Leveraging a model of long-term success found in the hosting of the Office of Economic and Manpower Analysis (OEMA) within the Department of Social Sciences, the Dean, BG Shane Reeves, placed ACI within EECS. Like OEMA, ACI is externally focused to support the Army, and its organization within USMA has synergistic overlap with the intellectual capital and innovative environment found here. Once within EECS, and following a best practice drawn from OEMA, ACI sought out the support of its principal external stakeholders to reimagine the ACI portfolio. Original principal stakeholders included Army Cyber Command, Training and Doctrine Command (now represented by the Cyber Center of Excellence at Fort Gordon, GA, to be redesignated as Fort Eisenhower in October of this year), and Headquarters, Department of the Army G-3/5/7 Strategic Operations. We made the decision to add the Army's Principal Cyber Advisor to the list of stakeholders, recognizing the significance and responsibilities of this position, which followed from the 2020 National Defense Authorization Act. The Commanding General of the Cyber Center of Excellence, MG Paul Stanton, traveled to West Point in the fall of 2022 to participate in the selection process for the new ACI director, COL Stephen Hamilton.

## JIM RAFTERY

Under COL Hamilton's leadership, we are operating with an ACI portfolio taxonomy that allocates resources and divides the priority of effort into three "buckets." The graphic we use shows the #1 priority as a large green bucket. The Think Tank projects that are placed into this green bucket are requested by one of the four principal stakeholders. The #2 priority is a medium-sized blue bucket, which can include projects from any source upon recommendation by the ACI director and validation by a principal stakeholder. The #3 priority is a small red bucket, which can contain projects from any source upon approval of the ACI director. In our graphic, the three buckets are drawn to scale and sized to fill a gold barrel representing the overall ACI portfolio, which is sized to match our resources. With the assistance of our principal stakeholders, we are working to put processes in place to formalize this taxonomy, though we have already begun its implementation. We are also reconstructing the ACI's external Advisory Group to consist of our four principal stakeholders and establishing another broader-reaching community of interest from which blue or red bucket projects might be proposed.

As the current head of EECS, I wholeheartedly welcome ACI "home" to the department where the organization was imagined and created. EECS graduates more officers into the Army's Cyber Corps than any other academic department in the nation. The complementary inclusion of the Army's Cyber Think Tank into EECS further strengthens our academic and research programs and enhances our ability to develop leaders of character for the Army and the nation.

It is my pleasure to provide the readership of the CDR with this update on changes within the ACI. We are focused on being the Army's Cyber Think Tank and, with the partnership and support of our principal stakeholders, we will continue to help the Army address the ever-changing cyberspace environment. In his introduction to the Spring 2023 issue, the CDR editor-in-chief, Dr. Corv Connolly, proudly announced the new home of the CDR with the West Point Press and emphasized its enduring relationship with ACI. To affirm Dr. Connolly's efforts to continue the CDR's robust coverage of the cyber domain and embody a commitment to the highest standards of excellence, we offer another inspiring slate of articles written by an impressive group of authors.