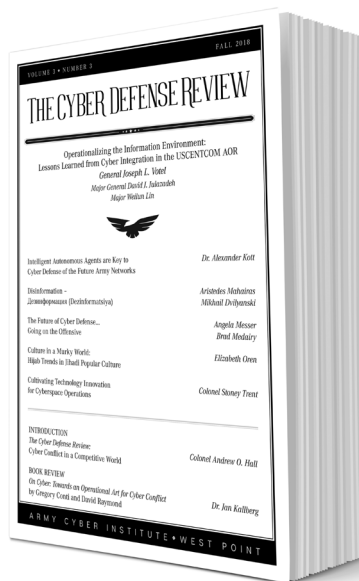


## *The Cyber Defense Review:* Cyber Conflict in a Competitive World

Colonel Andrew O. Hall



### INTRODUCTION

Welcome to, what we believe, is our most thought-provoking edition of *The Cyber Defense Review* (CDR). Before we begin this edition of the CDR, I would like to start off by extending my sincere thanks to those who put together the CyCon U.S. conference. This year's event at the Ronald Reagan Building in Washington, DC provided a dynamic environment to address relevant cyber issues confronting the global cyber community. Dr. Ed Sobieski and the CyCon U.S. conference committee continue to build a monumental event for cyber practitioners.

The CyCon U.S. conference also played host to the CDR's inaugural Editorial Board meeting. As Editorial Board Chair, I am humbled by the quality and expertise of our international board members of distinguished scholars and cyber leaders. The CDR Editorial Board give direction, discuss how to improve quality and reach, and serve as a channel for qualified input to increase CDR standing and ensure the overall success of the CDR in becoming the journal of choice for cyber practitioners. The Editorial Board examined our partnership with JSTOR, reviewed the new ScholarOne process, identified topics for themed and special issues, and provided influence, support, and input to the CDR team.

To continue our cyber conversation, I'm proud to announce the establishment of the CDR Press. This new project will allow those within the cyber community the opportunity to publish innovative and thought-provoking works. This endeavor is in keeping with the ACI and CDR's tradition of advancing the body of knowledge. Our inaugural CDR Press publication is entitled "Nonsimplicity, The Warrior's Way" by B. J. West and

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Colonel Andrew O. Hall is the Director of the Army Cyber Institute at the United States Military Academy (USMA) located at West Point, New York. In his position as Director, Colonel Hall leads a 53 person multi-disciplinary research institute and serves as the Chairman of the Editorial Board for *The Cyber Defense Review* journal; and Conference Co-Chair for the International Conference on Cyber Conflict U.S. (CyCon U.S.). He has a B.S. in Computer Science from the USMA, an M.S. in Applied Mathematics from the Naval Postgraduate School, and a Ph.D. in Management Science from the University of Maryland. Colonel Hall additionally teaches in the Department of Mathematical Sciences and the Department of Electrical Engineering and Computer Science at the USMA. Since 1997, Colonel Hall's military career has been focused on operations research and solving the Army's most challenging problems using advanced analytic methods. Colonel Hall also serves as the President of the Military Applications Society of the Institute for Operations Research and the Management Sciences. His research interests include Military Operations Research, Cyber Education, Manpower Planning, and Mathematical Finance.

D.C. Arney and will be part of a Security Studies Series. Our CDR Press will also publish important research studies, government reports, and conference proceedings for the cyber community.

Moving on to the CDR's Fall edition, I believe the contributors have ushered in a brilliant new standard of work for CDR readers. This issue features a leadership perspective from General Joseph Votel, Commander, U.S. Central Command, Maj Gen David Julazadeeh, and Maj Weilun Lin that address lessons learned from integrating cyber in the CENTCOM AOR, and offers compelling recommendations for operationalizing information across the joint community. Aristedes Mahairas and Mikhail Dvilyanski, of the FBI Cyber Branch in New York, lead us on a troubling exploration of Russia's disinformation campaign against our Nation.

We feature a professional commentary from Angela Messer and Brad Medairy, both senior cyber executives with Booz Allen Hamilton that provide a dramatic portrayal of 'Advanced Threat Hunting.' Matthew Bey, Senior Global Analyst at Stratfor, addresses superpower competition in the cyber domain.

We are proud of our six scholarly research articles. Dr. Alexander Kott, Chief Scientist at the Army Research Laboratory, presents a study on the value of intelligent autonomous agents for the cyber defense of Army networks; Dr. Fernando Maymi and Dr. Scott Lathrop take a critical look at artificial intelligence; CDR readers will enjoy Rock Stevens and Jeffrey Biller's research on offensive digital countermeasures and its implications for governments; COL Stoney Trent's article highlights the criticality of innovation to cyberspace operations; and readers can also look forward to a first-of-its-kind look into the Royal Navy's cyber operations with an article from Sub Lieutenant Christopher Argles RN. The research

commentaries are rounded out by a brilliant piece from Elizabeth Oren, Chief of Cyber Analytics at Jacobs' Mission Operations Group, which highlights the role of social media in Jihadi culture.

The CDR continues with our high-velocity research note section with an exciting work from Dr. Jan Kallberg and his examination of 'cyber supremacy.' If you are looking for another excellent read, Dr. Kallberg review of *On Cyber: Towards an Operational Art for Cyber Conflict* suggests why it should be on your reading list this fall. As always, we are excited to continue the cyber conversation together. ♥