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From the Editor

It is with great honor that I provide the introduction for this issue focusing on emerging disruptive technology for the *Journal of Advanced Military Studies* (JAMS). Artificial intelligence (AI), advanced human-machine team configurations, profound technological developments, and the never-ending security demands for all societies in this fast-paced world have placed humanity at the edge of a steep incline. Our species is moments away from multiple historic, likely game-changing developments that will require massive changes in how our military profession understands, prepares, and executes missions to deter conflict, win decisively when required, and encourage peaceful coexistence.

During the next decade or less, we will likely witness a firm expansion of humanity into the solar system, becoming a multiplanetary species with cosmic aspirations that carry with them new and unfamiliar security requirements. In the same period, we may finally spawn artificial intelligence that rivals or exceeds our own in ways that have extraordinary military consequences, with parallel robotics and drone developments giving AI the means to interact in the human world with their unique cognitive abilities. Decision-making methodologies, doctrines, practices, and even the language and underlying principles that comprise the current understanding of how to strategize and achieve tactical success must be tempered not with traditional or familiar tools, but with these emerging and unprecedented ones that will undoubtedly cause a paradigm shift in how we conduct war.

This issue of JAMS attempts to illuminate these new pathways with provocative and well-researched offerings. Major John Bolen boldly proposes drone employment en masse using swarm configurations, while Ameema Khalid considers the space domain and the clear need for new space policies, laws, and security preparations through a technological, deterministic lens. Lieutenant Commander Jonathan Alexander explores how human operators may become "enmeshed" into human-machine teams that carry new moral issues and risks. Paul A. Eisenmann critiques Western democracies in this emerging world of technological ambiguity, where authoritarian regimes may have the upper hand in waging cyber wars. These authors examine conflict and decision making with

clear appreciation of the disruptive nature of this rapidly changing technological environment before us.

Yet, we might not toss the human baby out with the AI bathwater. Defense of institutional norms, principles, and beliefs in this rapidly changing period is a valid and necessary area for debate. Major Vincenzo Gallitelli critiques the rise of AI by defending the institutionally favored conventions of Carl von Clausewitz, offering ways for humans to harness AI without becoming replaced. Major Gavin Holtz works in parallel, proposing interagency concepts that integrate new AI abilities with established military frameworks such as John R. Boyd's OODA (observe, orient, decide, act) loop. Ehsan Ejazi and Mahsa Ahmadyan offer analysis on how AI might be used to efficiently sustain existing geopolitical orders that use proxy wars to prevent nuclear or total war escalations. These authors provide signposts for future pathways where disruptive technology might be harnessed to further buttress existing institutional norms and best practices.

Lastly, this issue features some unorthodox and forward-looking positions on how far we might be technologically disrupted from our comfort zone. Lieutenant Colonel Jani Liikola and Commander Petteri Blomvall challenge the institution in a provocative fashion, offering readers new insights into how AI multiagent systems might transform nearly everything in the defense paradigm. A.S.M. Ahsan Uddin offers readers an overview of fantastic technology and theory such as antimatter missiles, kinetic bombardment from space, and antigravity propulsion that could in the coming decades move from the improbable to the feasible.

These authors collectively have peered out into the uncertainty and fog between our present state and a near future where these profound technological developments manifest in one form or another. We may be standing before some momentous transformation where new and dangerous pitfalls lurk. Readers should find their offerings in this issue of JAMS illuminating in a variety of ways to pierce the techno-veil.

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