

Greetings from the Assistant Director of Hypersonics, Office of the Under Secretary of Defense for Research and Engineering, Mr. Michael White



Mr. Michael White is the Assistant Director of Hypersonics, Office of Under Secretary of Defense for Research and Engineering

It is an honor and privilege to work across the Department of Defense to create the vision for, integrate, and implement our National Hypersonics Strategy. I am in debt to academia, government research laboratories and agencies, industry, acquisition, and our military for the ongoing advancements toward hypersonic capabilities. Collaboration and information sharing among these communities are essential to exploit technological innovation and quickly apply innovative ideas to concepts and capabilities. Our hypersonic strategy integrates and accelerates the development of transformational warfighting capability for hypersonic strike weapons, defense against adversary hypersonic weapons, and reusable hypersonic global reach and space access systems.

Hypersonics is one of the highest priority modernization areas within our *National Defense Strategy*. Our potential adversaries in this great power competition have dramatically increased their emphasis on weaponizing hypersonic technologies to create a potential capability gap we must not allow to stand. We must maintain our battlefield dominance at sea, in the air, on land, in space, and now in “near space.” Our focus is to achieve effective, affordable, and enduring hypersonic capabilities. To that end, we are developing an integrated, capability-based Science and Technology (S&T) strategy that will identify and address key technical gaps to enable near-term capabilities and enhance future capabilities. As we accelerate our research and development to field hypersonic warfighting capabilities, we must continue to advance our scientific understanding of hypersonic flight environments, fully explore the boundaries of the design space, and continue our investments, collaboration, and integration in pursuit of the most advanced and effective systems.

The mission of the *Journal of Defense Research and Engineering (JDR&E)* is to foster and facilitate collaboration and integration across these communities. In addition, the *JDR&E* provides a secure and controlled access forum, so that we may protect our innovations from our adversaries. This edition of the *JDR&E* provides articles that discuss technical innovations in areas such as integrated high temperature materials and structures, thermal management, modeling and simulation; test and instrumentation; combustion, aerodynamic control techniques, and optimal trajectories. I encourage you, the readers—who may be from universities, research laboratories, test and evaluation, industry, the acquisition community, or the Services—to review these papers and collaborate with the authors and your peers to explore the potential applications.

Our vision is to realize the full potential of hypersonic capabilities to ensure that we maintain battlefield dominance in the coming decade and for decades to come. I ask that you join me in making this vision become reality. Thank you.