



FORGING AIRPOWER DOMINANCE: **AIR UNIVERSITY** **ANNUAL REPORT 2025**

**The intellectual and leadership-development center
of the Air and Space Forces**

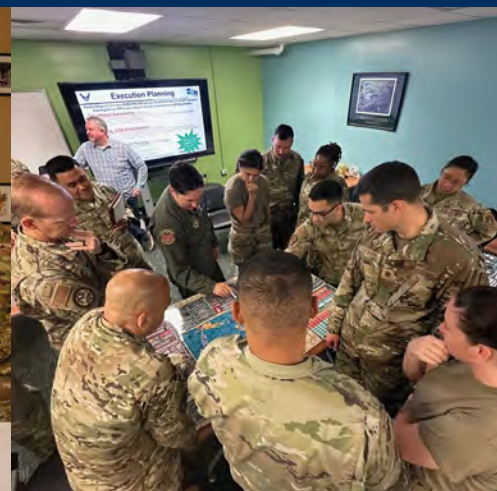


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GEN. DAVID W. ALLVIN, CSAF

“The changing character of war is coming upon us... Drones and human machine teaming of unmanned systems will force a rethink of airpower. This will be part of the reinvention of our Air Force and airpower into the future.”

(Air & Space Forces Magazine: 13 Feb 2024)

“These are times of consequence...the spirit of innovation, vision, and courage...Doing that and being ready and agile...ensures that we will continue to reinvent ourselves into the future to be the most dominant Air Force in the world.”

(Air Force News: 13 Feb 2024)

CMSGT (RET.) RAMÓN “CZ” COLÓN LÓPEZ, SEAC

“One lesson of the conflict in Ukraine is that government and military leaders must prioritize the training, development and education of service members. At the end of the day, the rivets and steel is not as important as the flesh and bone if the flesh and bone is not willing to go all-in in the execution of the wartime mission.”

FROM ACTS TO AU: A LEGACY OF INNOVATION AND LETHALITY

Air University (AU), situated at Maxwell Air Force Base in Alabama, has served as a prominent educational institution for the U.S. Air Force since its establishment in 1946. Drawing upon the distinguished legacy of the Air Corps Tactical School, founded in the 1920s, AU has consistently evolved to shape airpower theory and highlight the strategic significance of air dominance. Following the U.S. Air Force's transition to an independent branch in 1947, AU emerged as an essential institution dedicated to developing air doctrine, promoting education, and enhancing professional military training.

In the aftermath of World War II, AU identified a pressing need for a curriculum that reflected the changing landscape of strategic airpower in the nuclear age and tactical aerial combat. The Air War College, AU's flagship program, was crucial in preparing senior leaders to navigate the complexities of air doctrine and strategic theory during rising tensions with the Soviet Union, prompting AU to expand its educational offerings to encompass space power, missile operations, and the intricate dynamics of international security, reinforcing the importance of global partnerships.

The Vietnam War represented a pivotal moment in AU's evolution, introducing significant advancements in aerial reconnaissance, electronic warfare, and counterinsurgency strategies. This experience underscored the vital role of tactical air support in ground operations, an aspect that had previously received limited attention. To adapt to these technological advancements, AU refined its curriculum to include precision-guided munitions, stealth technology, and advanced command-and-control systems while promoting joint operations across various military branches emphasizing the Air-Land Battle Doctrine. In addition, integrating Colonel John Boyd's development of the OODA Loop allowed Airmen to frame decisions quickly and precisely to shorten and improve decision-making.

In the post-Cold War era following 1991, Air University shifted its focus to the unique challenges associated with regional conflicts, the Gulf War demonstrated the paramount importance of air superiority and precision targeting combined with shaping and supporting land operations. Throughout the 1990s, AU enriched its curriculum by incorporating themes of humanitarian aid and peacekeeping, emphasizing the evolving

Original ACTS Building
1930's



1931 ACTS Students at
Air University



Lt. William C. Maxwell &
His De Havilland DH-4



role of the U.S. military on the global stage while solidifying conventional deterrence strategies in a transforming environment.

The events of September 11, 2001, necessitated a rapid adaptation of AU's educational focus toward counter-terrorism, counterinsurgency, and irregular warfare strategies. New focal areas emerged, including urban warfare, intelligence operations, and essential collaboration with foreign military and security forces.

In recent years, Air University has concentrated its efforts on Great Power Competition, particularly in light of China's ascendance and Russia's resurgence. The Air Force Institute of Technology, a prominent AU component, has partnered with academic institutions and industry leaders to advance education and research in pioneering areas such as space security, quantum computing, and hypersonics. Furthermore, AU has made notable strides in enhancing its enlisted education, introducing professional competencies that align with diverse operational and strategic mission requirements.

With a steadfast commitment to delivering high-quality education to Airmen, AU has established partnerships with civilian academic institutions and invested in refining its doctrinal frameworks. Such efforts ensure that Air Force doctrine remains robust and relevant. Recently, AU has integrated wargames into its educational programs, fostering a renewed emphasis on developing critical thinking skills for Airmen operating in complex environments.

The Air Corps Tactical School motto was, "Progress Unhindered by Custom." We carry on that legacy today. Air University serves as the intellectual and leadership hub for the Air and Space Forces, prepared to inspire and equip the leaders of tomorrow. Through a focus on innovation and collaboration, AU aspires to shape the future of defense strategies and empower every Airman for success in an ever-changing global context.

1933-34 ACTS Students



1940 ACTS Students

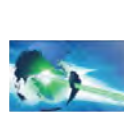


SCHOOL AND COURSE OVERVIEW

AIR UNIVERSITY ORGANIZATIONS



LEADER DEVELOPMENT & WARFIGHTER EDUCATION



MISSION CENTERS & ACADEMIC RESOURCES



AU “BY THE NUMBERS”

FORGING AIRPOWER DOMINANCE



Officer Professional
Military Education
Distance Learning
Graduates=
146



Joint Program
In-Resident
Graduates =
666



12,744
Enlisted Associates
of Applied Science
Degrees Awarded



44
Strategist
Graduated
from SAASS

FACULTY EXCELLENCE

ACADEMIC RANK PROMOTION

Assistant 8
Professor
Associate 7
Professor

TOTAL 15

INSTRUCTOR CERTIFICATION

Squadron Officer School / Theories & Principles of Adult Education (SOS/TPAE) 66
Enlisted Professional Military Education Instructor Course (EPMEIC) 163
Eaker Center Academic Instructor Course (AIC) 87

TOTAL 316



MASTER INSTRUCTOR (MI) CERTIFICATION



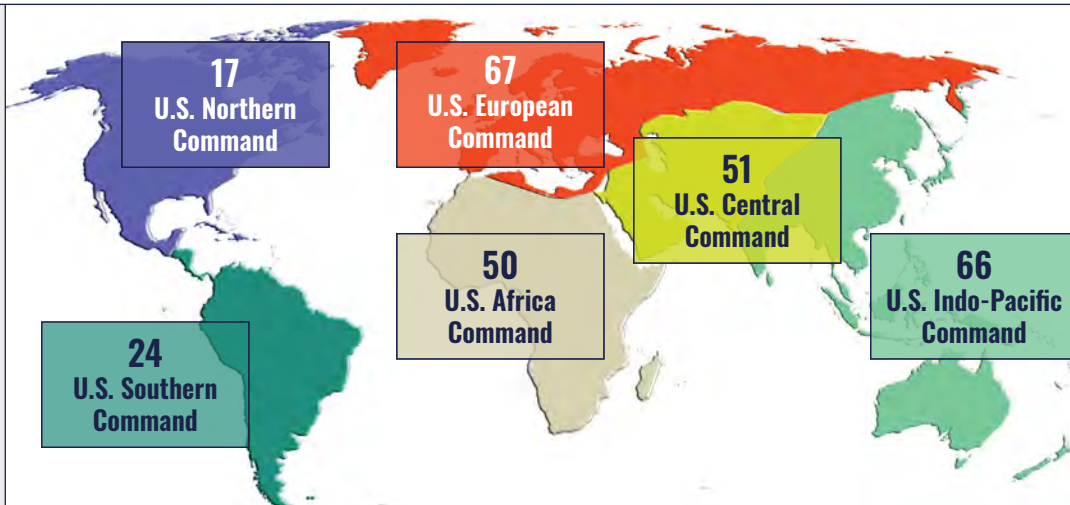
Officers 20
Enlisted 48
Civilians 5

TOTAL 73



INTERNATIONAL OFFICER SCHOOL

Globally connected:
- Students from
all services,
86 nations,
and civilian sectors



DISTINGUISHED SPEAKERS: SHAPING TOMORROW'S AIR FORCE AT AIR UNIVERSITY

Air University's Distinguished Speaker Series is a cornerstone of its mission to educate and inspire future Air Force leaders. Through diverse voices like Gen (Ret) Mike Minihan, former Secretary of State Condoleezza Rice, and CSAF Allvin, the series provides invaluable insights into leadership, strategy, and global affairs.

These speakers share their experiences, challenges, and lessons learned, offering a unique perspective beyond traditional classroom instruction. Gen Minihan might discuss innovative approaches to command, while Secretary Rice could offer strategic insights on international relations.

CSAF Allvin's presence reinforces the Air Force's priorities and vision for its personnel.

By engaging with such influential figures, Airmen gain exposure to diverse leadership styles and are challenged to critically analyze complex issues. The series fosters intellectual curiosity, encourages strategic thinking, and ultimately equips Airmen with the knowledge and inspiration necessary to lead effectively in a rapidly evolving world. It reinforces Air University's commitment to developing agile, adaptable, and visionary leaders for the Air Force.



LEMAY CENTER: SQUADRON OFFICER SCHOOL— SHARPENING CAPTAINS TO DELIVER AIRPOWER

Squadron Officer School (SOS) has enhanced its curriculum by integrating joint operations planning to better prepare Air Force captains for leadership roles in multi-domain environments. Recognizing the increasingly interconnected nature of modern warfare, SOS emphasizes the importance of understanding joint force capabilities, interservice collaboration, and strategic planning processes. Through case studies, war games, and practical exercises, students engage in realistic scenarios that mirror joint operational challenges, fostering critical thinking and effective decision-making. The focus on Great Power Competition now introduces company grade officers to topics in international relations, globalization, supply chains, and Chinese interests in the Indo-Pacific region. Coursework also addresses Russia's instruments of national power, including influence and information operations, and an Arctic-based scenario involving both Russia and China's activities in the region. This curriculum shift ensures graduates are equipped with the foundational knowledge and leadership skills necessary to contribute effectively in joint task forces and support the broader objectives of the Department of Defense.

In January 2024, Squadron Officer School launched its first class comprised entirely of officers from the United States Space Force with a curriculum

tailored specifically for space-based operations. The Space Force-focused track at Squadron Officer School represents a pivotal evolution in military professional education, acknowledging space as a distinct warfighting domain requiring specialized leadership development. This dedicated curriculum addresses the unique operational challenges, strategic considerations, and technical complexities inherent to space operations that differ significantly from traditional air, land, and sea domains. By providing Space Force officers with tailored instruction on space doctrine, orbital mechanics, satellite operations, and space-specific threats like anti-satellite weapons and cyber warfare, the track ensures leaders are equipped to navigate the increasingly contested space environment. The program's significance extends beyond technical training, fostering a space-minded officer corps capable of integrating space capabilities with joint operations while developing the critical thinking skills necessary to lead in a domain characterized by rapid technological advancement, international competition, and the dual-use nature of space assets. This educational initiative ultimately strengthens national security by producing informed space leaders who can effectively command and manage America's space-based capabilities in an era where space superiority has become essential to military success across all domains.



LEMAY CENTER: FIRST SERGEANT ACADEMY—FORGING ENLISTED LEADERS

The U.S. Air Force First Sergeant Academy (USAFSA), located at Maxwell Air Force Base-Gunter Annex, Alabama, is the cornerstone of enlisted leadership development, uniquely dedicated to shaping Airmen and Guardians into effective First Sergeants. Subordinate to the Ira C. Eaker Center for Professional Development, which itself falls under the organizational umbrella of LeMay Center for Doctrine Development and Education, the USAFSA stands alone as the **only** institution within the Air Force and Space Force that provides formal, specialized training for this critical role.

The academy's curriculum centers on leadership, mentorship, resource management, legal issues, and counseling. Students engage in a blended learning approach, including classroom instruction, exercises, case studies, and simulations, gaining a comprehensive understanding of military justice, personnel policies, and the challenges facing Airmen and Guardians.

Beyond technical skills, the USAFSA emphasizes ethical leadership, fostering respect and inclusivity. Students critically examine their leadership styles and develop strategies for positive unit environments. Strong communication skills are honed, enabling effective advocacy for Airmen and Guardians and fostering strong relationships with commanders.



Graduates are prepared to serve as trusted advisors, mentors, and advocates, handling personnel issues and providing guidance to ensure mission success. While exceptions may allow individuals to serve as First Sergeants without attending, the USAFSA remains the definitive source of formal training, ensuring First Sergeants lead with integrity, compassion, and a commitment to core values.

STRENGTHENING ALLIANCES: JOINT AND PARTNER NATION INTEGRATION FOR ENHANCED LETHALITY

For 69 years, the Air University International Officer School (IOS) has played a vital role in building global partnerships by welcoming exceptional international military students (IMS) into the Air University community. These highly accomplished officers, often representing the best and brightest from their respective militaries, participate in resident Professional Military Education (PME) programs through Foreign Military Sales (FMS) cases. The IOS is dedicated to supporting these IMS and their families throughout their AU experience and fostering engagement with international leaders through strategic outreach.

Since 1954, the IOS has hosted over 12,000 IMS from 136 countries. Recognizing the diverse backgrounds and expertise these officers bring, the IOS provides preparatory courses designed to bridge any potential academic gaps and ensure their seamless integration into the rigorous U.S. Air Force PME environment. These courses are specifically designed to familiarize officers with U.S. academic methodologies and research practices, facilitating a deeper understanding of the unique pedagogical approaches employed within AU. The program incorporates cultural immersion activities, field studies, and a sponsorship program to foster a welcoming environment for IMS and their families, promoting strong relationships and mutual understanding. The International Operations Branch offers comprehensive administrative support, ensuring a smooth transition and a rewarding experience for these esteemed international guests. This holistic approach to international military education and training, characterized by respect, cultural sensitivity, and genuine partnership, fundamentally distinguishes the U.S. approach from that of our global adversaries.



AIR FORCE INSTITUTE OF TECHNOLOGY (AFIT) BUILDS BRIDGE WITH QATARI ENGINEERS

AFIT CE recently welcomed their first Qatari Emiri Corps of Engineers officers to its WMGT 101 Basic Engineer Course!

This significant milestone highlights “AFIT’s growing role in fostering allied interoperability and advancing strategic partnerships through professional military education.”



Above: Qatari Officers Train Alongside U.S. Airmen in The Civil Engineer School’s WMGT 101 Course (photo by Diana Desukh)

Looking at the photo of the Qatari student below, a participant in the Air Force Institute of Technology’s (AFIT) Civil Engineer School’s WMGT 101 course, one can see the embodiment of strengthened international cooperation. As two officers from the Qatari Emiri Corps of Engineers (QECE) joined ninety-one other students, a bridge was built between nations. The ten-week course, held primarily at Wright-Patterson Air Force Base, offered foundational training in engineering leadership and installation management.

The Qatari officers, 1st Lts. Al-Ramaihi and Al-Mohannadi, found the experience transformative, both culturally and professionally. They gained a deeper appreciation for different approaches to teamwork and problem-solving. This collaboration fostered interoperability, crucial in joint environments like Al Udeid Air Base. The shared knowledge, coupled with the U.S. emphasis on standardization and Qatar’s expertise in desert engineering, facilitated mutual growth. This pioneering effort sets a positive example, paving the way for future QECE participation and strengthening military partnerships.



CHINA AEROSPACE STUDIES INSTITUTE: LEMAY CENTER'S CHINA AEROSPACE INSIGHTS



The China Aerospace Studies Institute (CASI) serves as the Department of the Air Force's premier center for understanding China's aerospace forces and related civilian infrastructure. Our mission is to advance knowledge of Chinese strategy, doctrine, capabilities, and organization in air, space, cyber, and missile domains. By studying "everything that flies" in China, we provide critical insights into decision-making, limitations, and opportunities relevant to U.S. strategic interests.

CASI supports senior leaders, policymakers, and warfighters across the Department of Defense

and U.S. government. We achieve this through primary source research and translation, direct engagement with the warfighter, educating the force, and fostering collaboration within the broader China research community. Our activities include publishing original research, hosting conferences, facilitating access to a comprehensive library of resources, and providing education and mentoring opportunities. CASI's work directly supports U.S. defense strategy in the Asia-Pacific region by providing high-quality, unclassified research on Chinese aerospace developments.



STRATEGIC PLANNING TO LETHAL EXECUTION: WARGAMING'S CRUCIBLE

At the Air War College, wargaming transcends mere academic exercise. It's the crucible where theoretical concepts are forged into practical warfighting strategies. Our students, immersed in simulated conflicts, bridge the gap between the classroom and the complex realities of the modern battlespace. By actively shaping and responding to evolving scenarios, they internalize the principles of international security, resource allocation, and strategic decision-making.

Wargaming is more than just a simulation; it's a proving ground. Students analyze the lethality

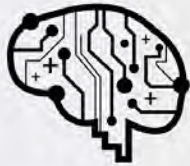
of different approaches, grapple with ethical considerations, and refine their ability to translate academic insights into actionable plans. This isn't abstract study for intellectual curiosity. Air War College students don't study international security—they create it. They are not detached observers; they are future leaders poised to shape global security landscapes. The knowledge gained through rigorous wargaming prepares them to make critical decisions that will directly impact national security and the lives of those they lead. This is the Air University difference: education with consequence, preparing leaders to secure the future.



ENHANCED LETHALITY: AUTONOMY AND NAVIGATION TECH FOR AIR DOMINANCE

The Autonomy and Navigation Technology (ANT) Center delivers decisive advantages to the modern battlefield through advancements in precision navigation. It is developing autonomous agents, particularly Unmanned Aircraft Systems (UASs), that can independently operate in contested environments, enabling lethal capabilities even in GPS-denied areas. The research focuses on seamless human-machine interaction, ensuring operators maintain command and control over increasingly sophisticated systems. Cooperative navigation is paramount, allowing multiple vehicles to execute coordinated strikes, map enemy positions, and precisely target threats. By integrating biologically-inspired control, cognitive networks, and intelligent sensing, the Center creates resilient and adaptive navigation strategies. This translates to enhanced lethality, improved mission success, and ultimately, air superiority for the United States Air Force.

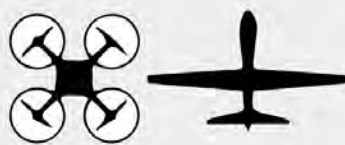
AUTONOMOUS AGENTS & ROBOTICS



HUMAN-MACHINE INTERACTION



UNMANNED AERIAL SYSTEMS (UAS)



COOPERATIVE NAVIGATION



Raytheon

THE OHIO STATE UNIVERSITY

SET CORPORATION

OHIO SPACE GRANT CONSORTIUM

DAGSI The Dayton Area Graduate Studies Institute

STS Sensor Technology Systems

DRAPER

LOCKHEED MARTIN

ENSCO

Locata.

Right: AFIT Research Sponsors

LEMAY CENTER DOCTRINE: THE FOUNDATION OF AIRPOWER



On June 22, 2025, Operation MIDNIGHT HAMMER redefined the landscape of strategic deterrence. This rapid-strike campaign, a meticulously orchestrated joint force assault against Iran's nuclear weapons infrastructure, showcased the devastating power of American airpower. Thirteen B-2 bombers, supported by dozens of Tomahawk missiles and 112 aircraft across domains, delivered a crippling blow in under an hour. Fusing stealth, deception, and electromagnetic warfare, the mission served as a clear message: U.S. airpower delivers lethal effects with global reach, enabling diplomacy from a position of strength.

This operation validated core tenets of Air Force doctrine: flexibility, surprise, tempo, and joint integration, proving airpower's continued agility in strategic coercion. Building on this legacy, the LeMay Center announces the launch of Air Force Doctrine 2035 (AFD35), a yearlong project to scout emerging technologies and assess their impact on airpower doctrine in the decade ahead. AFD35 will survey industry, academia, policymakers, sister services, and international partners to discover game-changing technologies, wargame their operational deployment in a 2035 scenario, and distill insights to inform future Air Force doctrine development.

DISCOVER

Scout emerging and disruptive technologies that will likely be fielded within the decade.

Survey industry, academia, policymakers, sister services, and international partners.

WARGAME

Convene experts for capstone wargame that explores operational employment of these technologies.

Facilitate participant symposium to distill insights.

INFORM

Publish findings in academic LeMay Papers and an Air Force Doctrine Note.

Host Air Force Doctrine Summit for Air Force senior leaders.

"At the very heart of warfare lies doctrine."

— Gen Curtis E. LeMay

LEMAY SENIOR LEADER WARFIGHTER EDUCATION



FLAG OFFICER COURSES

- ★ Joint Flag Officer Warfighting Course
- ★ Senior Joint Info Ops Application Course
- ★ Combined Forces Air Component Commander Course
- ★ Cyber Space Operations Executive Course

The LeMay Center forges airpower leaders through targeted Flag Officer and Warfighting Education Courses. Senior leaders hone strategic decision-making in the Joint Flag Officer Warfighting Course and Combined Forces Air Component Commander Course, mastering joint operations and air component command. The Senior Joint Info Ops Application Course and Cyber Space Operations Executive Course equip leaders for information warfare and cyberspace operations. These programs cultivate agile commanders

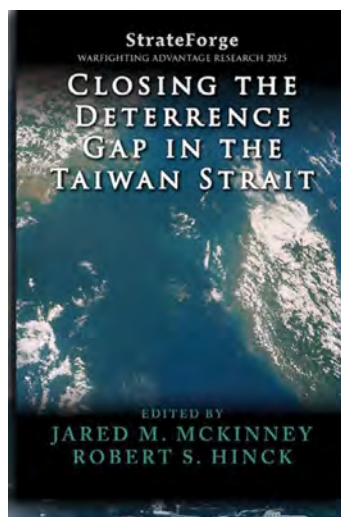


WARFIGHTING EDUCATION COURSES

- ★ Contingency Wartime Planning Course
- ★ Joint Air Operations Planning Course
- ★ Joint Task Force Basic Course

capable of integrating airpower across domains. The Center also provides crucial operational-level training through the Contingency Wartime Planning Course, Joint Air Operations Planning Course, and Joint Task Force Basic Course. These courses sharpen warfighting skills for officers and enlisted personnel, fostering expertise in planning and executing joint air operations within complex task forces. This rigorous education, encompassing academic instruction, wargaming, and exercises, ensures the USAF maintains air dominance.

STUDENT AND FACULTY SUCCESS STORIES



Taiwan Deterrence Warfighting Advantage Research (WAR)

What can Taiwan do in this “decisive decade” to decrease the risk of conflict across the Taiwan Strait? The Taiwan Deterrence WAR is AU’s hub for developing practical, creative solutions that can be implemented in the near future. Students at Air War College, Air Command and Staff College, and Squadron Officer School can apply to work in the research group as a program-length elective.

These students conduct in-depth research, participate in wargames, and collaborate on teams, all aimed at identifying innovative strategies to counter China’s military advantage. The program emphasizes mentorship, briefings to senior leaders, and peer review to refine student projects. The objective is to produce impactful recommendations for reducing the deterrence gap in the Taiwan Strait, particularly focusing on weapons systems and operational concepts Taiwan can leverage.

Student work has already influenced high-level discussions and publications. For instance, Col Kevin McKittrick’s analysis of why the US didn’t invade Taiwan in WWII (Operation Causeway) highlighted the importance of accounting for the adversary’s actions. Similarly, Col Hirokazu Honda’s study of Imperial Japan’s Taiwan defense preparations revealed lessons about prioritizing troop numbers, fortifications, and asymmetric tactics. A collection of student essays, *Closing the Deterrence Gap in the Taiwan Strait*, further proposes concrete ways Taiwan, with U.S. assistance, can bolster deterrence through denial, punishment, and resilience. The program continues to build on these successes, promoting new approaches to deterrence for the coming year.



Get Back Up: Lessons in Servant Leadership

From AU Press, in *Get Back Up*, Gen David Goldfein and Dr. Heather Wilson share powerful leadership lessons shaped by decades of service.

Chapters like “Am I Worthy?” and “Own Failure” explore humility, accountability, and resilience, while others like “Step Up and Lead” and “Take the Shot” emphasize courage, initiative, and servant leadership. Through each lesson, they reveal that true leadership isn’t about titles—it’s about service, growth, and showing up when it matters most.

AIR UNIVERSITY RESEARCH

As the Air Force’s institutional thought leader, Air University is committed to developing game-changing ideas, ground-breaking concepts, and cutting-edge technologies. Air University schools and centers have a broad research agenda that produces thousands of academic research papers, scholarly articles, and studies each year.

The unprecedented speed of technological change brought about by the digital revolution is rapidly changing the character of warfare. Air University

aims to explain the new battlespace and to harness the opportunities it affords. Our research focuses on joint and combined warfighting in all domains. It examines competition amongst great powers and the challenges posed by Russia and the PRC. We explore strategic competition, integrated deterrence, and nuclear operations. Air University has focused research on disruptive technologies, like hypersonics, directed energy, and artificial intelligence. Today’s Air University research is laying the groundwork for victory in future conflict.

RESEARCH AREAS

- ★ Talent Management
- ★ AI/Autonomy/Automation
- ★ Emerging Technologies
- ★ Strategic Competition
- ★ Integrated Deterrence
- ★ Information Warfare

- ★ Defense Innovation
- ★ Force Development
- ★ Airpower
- ★ Cyber
- ★ Space
- ★ PRC

- ★ Russia
- ★ Nuclear Operations
- ★ Leadership
- ★ Allies & Partners
- ★ Joint Warfighting
- ★ Logistics and Sustainment

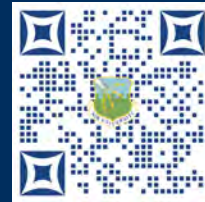
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Website**



**Air University
Social Media**



**Foundational
Resources**



**Wild Blue
Yonder
Digital
Journal**



**Air University
Press**



AU Research



**Air Force
Institute of
Technology**



**Wargaming
Compendium**



**Air Force
Doctrine**



**Doctrine
Podcasts**

