

List of Contributors

Major James M. Abatti is the Chief F-117 and Air Sovereignty Alert Programmer, Combat Forces Division, Headquarters Air Force, Pentagon. He serves as the Air Staff POC for developing executable programs to meet worldwide F-117 and air sovereignty alert force requirements. He monitors and evaluates the active force structure to ensure coherent resource allocation programming and evaluates programming actions based on guidance from the Office of the Secretary of Defense (OSD), the Secretariat, the Air Force Chief of Staff, and recommendations from the Major Commands. Major Abatti is a graduate of the U.S. Air Force's Air Command and Staff College and holds a Master of Military Operational Art and Science from Air University and a Bachelor of Science in Engineering from California Polytechnic State University. Major Abatti is a combat mission commander with over 3,000 flying hours in B-1, T-38, and F-16 aircraft.

Colonel Daryl J. Hauck is the Director, Program Execution Group for the Air Force Program Executive Officer for Command & Control and Combat Support Systems located at the Electronic Systems Center, Hanscom AFB MA. He is responsible for staff actions directing 12,000 personnel at 8 geographically separated units, executing \$4B in annual budget across 300+ programs providing global awareness, agile combat support, and information superiority; including the Air Operations Center (AOC), Airborne Warning and Control System (AWACS), Joint Surveillance and Targeting System (JSTARS), Joint Mission Planning Systems (JMPS), Tactical Datalinks (TDL), and numerous Operations Support Systems. Colonel Hauck is a graduate of the Air Force's Air Command and Staff College (ACSC) and Air War College (AWC). He holds a PhD in Industrial Engineering from Arizona State University, a Masters in Systems Management from the Air Force Institute of Technology, and a B.S. in Operations Research from the United States Air Force Academy. He won the 2004 Air War College Douhet-Mitchell International Airpower Trophy given by the Order of Sons of Italy in America for the paper which best demonstrates extraordinary vision and foresight into the future military aerospace requirements of the United States for his work entitled "Pandora's Box Opened Wide: Micro Unmanned Air Vehicles Carrying Genetic Weapons."

Colonel James C. Horton is the 354th Fighter Wing Vice Commander at Eielson AFB, Alaska. In his previous assignment he was the Senior Military Assistant to the Under Secretary of the Air Force/Director of the National Reconnaissance Office where he coordinated schedules and issues in all matters related to space systems development and operations for the Under Secretary/DNRO. Colonel Horton is a graduate of the U.S. Air Force's Air War College and holds a M.A. in Management from Troy State University, and a B.S. from the Air Force Academy. At Air War College he won the 2004 Air Force Historical Foundation's Research Award for the paper of the most significance to the Air Force today for his work entitled "Unmanned Combat Aerial Vehicles: SEAD & EW for the Future."

Lieutenant Colonel Kirk M. Kloeppel is the Acting Deputy Director, Directed Energy Directorate, Air Force Research Laboratory at Kirtland AFB, NM. He is responsible for the day-to-day operations of directed energy research including beam control, lasers, and high power microwaves supporting warfighter requirements and future technology needs. His previous assignments include Acting Director of Engineering at Robins AFB GA. He provided technical support to each of the aircraft product divisions at the Air Logistics Center. Colonel Kloeppel entered the Air Force in 1984 and was commissioned through the Air Force Reserve Officer Training Corps as a distinguished military graduate. A career engineer, he was first assigned as an engineer on the Advanced Cruise Missile program at Wright-Patterson AFB OH. Following that assignment, he became a flight test engineer with Strategic Air Command conducting offensive weapon systems tests. He was selected for the Education with Industry program working composite materials application on the F-22. He has served in various staff positions U.S. Atlantic Command, U.S. Joint Forces Command and Headquarters Air Force, focusing on future joint, warfighting concepts through experimentation. Colonel Kloeppel is a graduate of the U.S. Air Force's Air War College and holds a M.A. in Strategic Studies from Air University, a M.S. in Aerospace Engineering from the University of Dayton, and a B.S. in Aerospace Engineering from Texas A&M University. He has also completed Squadron Officer's School, Air Command and Staff College, and Joint Staff Officer's School in residence. He won the 2004 Air War College Defense Intelligence Agency's Research Award for his paper entitled "Pesky Little Critters."

Major Andrew J. Knoedler is the Program Element Monitor for the B-1B Lancer in the Office of the Assistant Secretary of the Air Force (Acquisition). He is responsible for the accurate and timely flow of B-1B bomber information among decision makers in Congress, Office of the Secretary of Defense, Air Staff, and the B-1B System and Sustainment Groups. Major Knoedler has served as a flight test engineer, flight commander, and operations officer at several flight test locations across the country. He is a distinguished graduate from the Air Force's Air Command and Staff College and holds master's and bachelor's degrees in Aeronautics and Astronautics from the Massachusetts Institute of Technology. He presented the paper in chapter 3 at the 10th International Command and Control Research and Technology Symposium in Jun 2005.

Major Benjamin F. Koudelka, Jr. is the Chief, International Air Superiority Programs, SAF/IA, where he is responsible for building, sustaining, and expanding international relationships as critical enablers for expeditionary air and space forces in global operations. In addition, he develops USAF political-military policy and security cooperation strategy to assure USAF influence with willing allies and coalition partners. An F-15 E pilot, Major Koudelka was awarded the "Top Gun Weapon System Officer Air-to-Air" award as a graduate of the F-15E Basic Qualification course. He has earned a bachelor's degree in business administration from the University of Houston, a master's degree in aeronautical science technology from Embry-Riddle Aeronautical University, and is a graduate of the Air Force's Air Command and Staff College.

Lieutenant Colonel Richard A. "Rick" Lipsey is the commander of the 374th Communications Squadron, Yokota Air Base, Japan. He leads the Air Force's largest communications squadron with over 540 personnel assigned at 6 geographically separated units. He is responsible for the operation and maintenance of over \$450M worth of communications and information assets supporting the airlift hub of the Western Pacific and joint requirements throughout the region. Born in Dade City, Florida, Lieutenant Colonel Lipsey entered the Air Force in 1986 through the ROTC program at Miami University, Oxford, Ohio. Early highlights of his career include communications planning to stand-up United States Transportation Command, authoring plans to realign Air Force communications units to their supported major commands, fielding the Global Command and Control System (GCCS) for Air Combat Command,

leading a 75-man self-sustaining comm team in support of the Air Force's first full-time Air Expeditionary Wing, and serving as communications commander for U.S. forces at Al Dhafra Air Base, United Arab Emirates. In 1999 he assumed command of the 81st Communications Squadron at Keesler AFB, the Air Force's base-level test unit for the Y2K transition. Later, he directed day-to-day operations of all fixed and deployable communications assets in the European theater, including support of the Global War on Terrorism and Operation Iraqi Freedom.

Lieutenant Colonel John E. "Mars" Marselus is Chief of the Joint Exercise Division, Alaskan Command, Elmendorf AFB AK. He is responsible for overseeing and implementing joint exercises in support of regional strategy, war plans, and homeland defense exercises critical to both USPACOM and USNORTHCOM in addition to supporting and facilitating the Commander ALCOM Joint Training Plan. Colonel Marselus holds a Master of Strategic Studies from Air War College; a Master Arts in Religion, Cum Laude, from Liberty Baptist Theological Seminary; and a Bachelor of Science in Aeronautical Engineering from the United States Air Force Academy. He has over 3000 fighter hours in the A-10 and F-15E flying combat missions in both aircraft. He has served in multiple positions to include Squadron Commander of the 90FS Dicemen and was recipient of the USAF Anthony C. Shine Award. He won the 2004 Red River Valley Fighter Pilots Association Award for the outstanding paper on joint employment of air power in support of national military strategy for his paper entitled "Who Pushes the Pickle Button?"

Major Shaun R. McGrath is the F/A-22 Spiral 2 Follow-on Test and Evaluation (FOT&E) Test Director, AFOTEC/Det 6, Nellis AFB. He leads a team conducting FOT&E of the Air Force's #1 acquisition program, the \$74B F/A-22 Raptor. He is responsible for planning, organizing, and directing over 50 man-years of military and contractor support for a multi-venue \$15M test program, speaking for AFOTEC on critical program issues with the Secretary of the Air Force for Acquisition, DOD Director of Operational Test and Evaluation (DOT&E), senior Air Staff, HQ Air Combat Command, Air Warfare Center, and F/A-22 System Program Office (SPO). Major McGrath is a graduate of the U.S. Air Force's Air Command and Staff College and a graduate and former instructor of the U.S. Air Force's F-16 Weapons School. He holds a M.A.S. in Aeronautical Science from Embry Riddle Aeronautical University and a B.S. from the U.S. Air Force Academy.

Lieutenant Colonel Colin R. Miller is currently the Lead, USAF Requirements for the Joint Strike Fighter (JSF), JSF Program Office. His duties involve coordinating USAF/USN/USMC and eight partner countries' requirements across the JSF air system to ensure that the program delivers a lethal survivable, supportable, and affordable fighter that meets warfighter needs. Colonel Miller has more than 2,000 flight hours in 35 aircraft types, with operational experience in the F-15C and F-117A. He has been an experimental test pilot in the F-15C and F-15E and holds the distinction of being the youngest test pilot to fly the F/A-22 Raptor. He holds a bachelor's degree in mechanical engineering from Virginia Tech and master's degrees in organizational management from George Washington University and in aviation science from the University of Tennessee. In addition, he is a 2005 graduate of the Air Force's Air Command and Staff College.

Lieutenant Colonel Eric J. Schnitzer is the Headquarters Air Force Doctrine Center Director of Doctrine Development. He is responsible for developing and advocating Air Force basic and operational doctrine for the warfighter. Colonel Schnitzer is a veteran of Operations Desert Shield/Storm, Deny Flight, Deliberate Force, and Northern Watch, with over 3000 total and 300 combat hours in tactical aircraft. He also has 100 hours of ground combat time as the Air Liaison Officer for the 4-7 Cav, 3rd Armored Division, 7th Corps. Colonel Schnitzer holds a B.S. in Electrical Engineering from the U.S. Air Force Academy and a M.A.S. in Aeronautical Science and Technology from Embry Riddle University. He is a graduate of the U.S. Army's Command and General Staff College and the U.S. Air Force's Squadron Officer School and Air War College.

Major Eric E. Silbaugh is the commander of the 28th Communications Squadron, Ellsworth AFB SD. He was commissioned through the Reserve Officer Training Corps at the University of Minnesota in 1989 after completing a Bachelor of Electrical Engineering degree. He entered active duty in 1990 and has served in a variety of Air Force and Joint communications assignments including seven deployments to the US Central Command theater in support of Operations SOUTHERN WATCH, ENDURING FREEDOM, and IRAQI FREEDOM. Major Silbaugh is a graduate of the Air Command and Staff College with a Master of Military Operational Art and Science degree, the Air Force Institute of Technology (AFIT) with a Master of Science in Electrical Engineering degree, and the Squadron Officer School. He received the 1995 Armed Forces Communications and Electronics Association

Research Excellence Award for his AFIT thesis entitled, “Characterization of Optical Turbulence over Long, Horizontal Paths Using Hartmann Wavefront Sensor Measurements.”