



National Defense University

Annual Report for Academic Year 2016 (AY16)

(July 1, 2015 - June 30, 2016)

Table of Contents

INTRODUCTION	5
NDU BY THE NUMBERS	11
EDUCATION, RESEARCH AND ENGAGEMENT	14
Accreditation	14
President’s Lecture Series	14
College of International Security Affairs (CISA)	17
Eisenhower School (ES)	23
Information Resources Management College (IRMC)	33
Joint Forces Staff College	38
National War College	48
International Student Management Office (ISMO)	53
International Academic Activities	53
International Engagement Activities	53
Institute for National Strategic Studies (INSS)	55
Center for Complex Operations (CCO)	56
Center for Strategic Research (CSR)	57
Center for the Study of Chinese Military Affairs (CSCMA)	59
Center for the Study of Weapons of Mass Destruction (CSWMD)	60
Center for Technology and National Security Policy (CTNSP)	61
National Defense University Press	63
Flag Officer and Senior Enlisted Education	64
CAPSTONE	64
PINNACLE	64
KEYSTONE	65
Faculty Publications	66
Bibliography	66

Illustrations

TABLES

1. FY 2015 University Fiscal Resources	12
2. FY 2016 University Fiscal Resources	12
3. University Facilities	13
4. CISA Overall Student Enrollment	19
5. CISA Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service	19
6. CISA Student Educational Background	20
7. CISA International Students and Faculty	21
8. CISA Faculty Educational Background	22
9. Eisenhower Overall Student Enrollment	29
10. Eisenhower Student Educational Background	29
11. Eisenhower Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service	30
12. Eisenhower International Students and Faculty	31
13. Eisenhower Faculty Educational Background	32
14. IRMC Student Enrollment	34
15. IRMC Civilian Students by DOD Agency, Sub-Agency, Bureau and Service	35
16. IRMC Civilian Students by Non-DOD Agency, Sub-Agency, Bureau and Service	36
17. IRMC International Student Enrollment	37
18. IRMC Faculty Educational Background	37
19. JFSC Student Enrollment	45
20. JFSC Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service	45
21. JFSC Student Educational Background	46
22. JFSC International Student Enrollment	46
23. JFSC Noncredit/Program Course Enrollment	47

TABLES (continued)

24. JFSC Faculty Educational Background	47
25. NWC Overall Student Enrollment	49
26. NWC Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service	50
27. NWC Student Educational Background	50
28. NWC International Student Enrollment	51
29. NWC Faculty Educational Background	52

FIGURES

1. NDU Students	11
2. NDU Personnel	11
3. Title 10 Employees' Highest Level of Education	12

INTRODUCTION

The National Defense University (NDU) educates, develops, and inspires national security leaders. Today's security environment can be volatile, unpredictable, complex, and ambiguous. History has shown that the best way to safeguard the nation's interests is by educating and developing leaders who are prepared to think critically, strategically, and creatively to produce holistic, innovative solutions. Since the university's founding in 1976, providing this leader education and professional development has been NDU's primary purpose. This report covers NDU's work in preparing national security leaders during Academic Year 2016 (July 1, 2015 to June 30, 2016). The university's impact is presented here and in the following sections.

Executive Agent: Among the most significant changes this year, the Secretary of Defense designated the Chairman of the Joint Chiefs of Staff as NDU's Executive Agent. On October 22, Secretary Carter directed a funding realignment for NDU and delegated direct management control and responsibility over programming and education resources effective at the beginning of fiscal year 2017. Through Resource Management Decision 700A2, the Deputy Secretary of Defense directed realignment of NDU under the Joint Staff as a Chairman of the Joint Chiefs of Staff controlled activity (CCA), with the NDU President reporting to the Chairman through his designee. This strengthened relationship with the Joint Staff through the Director for Joint Force Development (DJ-7) should more directly align policy and requirements with the university's budget planning and execution. The NDU budget will continue to operate separately within the Joint Staff budget, allowing NDU continued management control over all aspects of university resources.

Organization and Lines of Operation: NDU operates under the authority and direction of the NDU President, through the Vice President for Academic Affairs/Provost and the Vice President for Administration/Chief Operating Officer (COO). The Senior Vice President, a career diplomat assigned from the Department of State, leads the university's related Engagement and International Student academic and support programs. Academic and research programs are led by a military commandant, civilian chancellor, or director, in consultation with the Provost. The COO leads all business operations, including financial management, facilities, human resources, information technology, current operations, events, and resource management. The university team is composed of major components at multiple campuses using a whole-of-NDU strategy to optimize NDU's mutually supportive lines of operation:

- Teaching: Education and professional development of national security leaders
- Research: Creating and disseminating new knowledge and understanding within the national security discipline
- Engagement: Outreach to, and collaboration with, strategic stakeholders, including national security leaders and organizations with whom NDU is interdependent

NDU's Unique Value Proposition: As the premier institution for strategic leader development, NDU leverages a uniquely valuable combination of:

- Security focused academic and research programs
- A deliberately diverse body of students, faculty, and staff that capitalizes on NDU's holistic approach:
 - Unlike civilian graduate programs, NDU's student body is more professionally mature (average student age is 43) and intentionally diverse to ensure a wide range of operational perspectives in every seminar
 - Uniquely qualified faculty that combine academic credentials with decades of operational experience in national security programs and policy making
 - Enterprise-minded staff and dedicated, lean academic and institutional support systems
- Deep partnerships across the interagency and international landscape, including with all government agencies operating in the national and international security space, think tanks, and academic consortiums
- Campus locations in the seat of government (McNair campus) and co-location with multiple operational commands (Norfolk campus) that enable key relationships
- Engagement with national and international strategic leaders from across the security enterprise

As a result, NDU delivers rigorous Joint Professional Military Education (JPME) and other tailored education and leader development programs for the future strategic leaders of the nation's military, the interagency, and international partners. This approach produces leaders with the ability to think critically and lead effectively in today's dynamic, unpredictable, and complex world.

Mission Accomplishment: NDU accomplished its primary mission this year by delivering targeted education and professional development programs to more than 3,300 graduate-level students (details of these and other key accomplishments are presented throughout this report). Scholars across the university also conducted a wide range of outreach programs that informed, educated, and engaged key stakeholders. University faculty researched and published more than 100 scholarly articles in professional journals. In addition to publishing Joint Force Quarterly, PRISM, and multiple other research documents, NDU also published *Lessons Encountered: Learning from the Long War*, which assessed the campaigns in Iraq and Afghanistan, and *The People's Liberation Army and Contingency Planning*, which examines how the PLA prepares for a range of domestic, border, and maritime contingencies.

Goals: Throughout the year, the university continued its drive toward four strategic goals:

- Educate, develop and inspire national security leaders to meet the nation's needs.
- Create, preserve and disseminate knowledge intrinsic to advanced joint education and leader development.
- Create integrated solutions and services that support advanced joint education and focus on customer service, collaboration, effectiveness, efficiency, innovation and fiscal responsibility.
- Evolve and reform the processes, practices, structures, organization and culture to foster institutional collaboration, integration and alignment.

Curriculum: The entire university team continued its work on improving both the academic programs and the business operations that support and enable these programs. This included incorporating student and faculty feedback with lessons learned from the previous year to fine tune the university's shared calendar and curriculum; the university expects that only minor adjustments will be required for the next two to three years. This effort also included adjustments to the overall electives program on the North Campus; the expectation is that NDU's general core curriculum delivery will require only minor adjustments for the next two to three years.

Budget: Despite constrained funding throughout FY15, there was good news during the year-end close out. NDU's Information Technology, Facilities, and Resource Management Directorates partnered early in the year to develop contracting strategies designed to capture year-end funding, if available. This team worked with the Navy contracting support office to set up a contract to allow obligation of funds late into September. This paid off when OSD issued \$3.5M of year-end funding, which allowed NDU to fund a \$2.6M renovation to classrooms in IRMC, \$400K to upgrade war-gaming classrooms at the Norfolk campus, along with other IT system investment requirements. All of this will support NDU's long-term efforts to further embrace Academic Technology.

Moving into FY16 and FY17, the NDU budget from Congress was \$78M for FY16, which would not have been enough to sustain operations. However, based on the results of NDU's Program Review, in July the Joint Staff pledged to support \$6.8M additional funding for FY16 and FY17 to maintain NDU operations in the short term; this includes \$3.2M for IT investment to support NDU's strategy to improve academic and business technologies. The Joint Staff challenged NDU to find efficiencies to meet the remaining FY18-22 shortfalls.

With this sense of urgency to balance requirements and budget, NDU's FY18-22 future-year planning and programming process moved into high gear. The NDU President created 12 working groups to develop options focused on changing the way NDU does business from a confederated component concept to implement more whole-of-NDU processes. The task teams developed a wide range of options for new initiatives and efficiencies to resolve a \$4M

deficit between requirements and funding each year from FY18 to FY22, and to set the university's overall program on a balanced and sustainable path moving forward.

NDU completed the transition of its Chief Information Officer (CIO) from a military position to a civilian Title X position. The new CIO was brought on board in July and embarked on an end-to-end review of the Information Technology Directorate, its plans, programs, and organization. The results of this review will be critical to the success of Fiscal Years (FY) 18-22 planning and programming efforts and NDU's goal of ensuring an integrated and affordable investment strategy for the modernization and sustainment of future academic and business technology requirements.

Initiatives: One new initiative implemented this year was the Joint Professional Military Education II Master's program in the Information Resource Management College. This J7-approved pilot program consisted of the Department of Defense's first Senior Service College (SSC) class of students whose studies centered on employing information and cyberspace to achieve national security outcomes. These 14 military and civilian students spent ten months in a rigorous educational program focused on developing the ability to successfully employ information and cyberspace capabilities at the strategic level. On a related note, the Information Resource Management College is expected to be renamed the College of Information and Cyberspace, based on FY17 NDAA language.

In May, the College for International Security Affairs (CISA) passed its Professional Accreditation of Joint Education (PAJE) for JPME II accreditation of the International Counterterrorism Fellowship Program. This was the first in a series of PAJE visits across NDU's colleges over the next two academic years. Also of note, CISA continued to enhance its program for special operators at Fort Bragg, North Carolina, with the inclusion of State Department students and officers from partner countries, thereby strengthening its international network of counterterrorism alumni practitioners.

The FY2016 National Defense Authorization Act enabled NDU to move forward with two initiatives at the Joint Forces Staff College (JFSC). In addition to providing in-residence education for more than 1,000 officers each year to meet the requirements of the Combatant Commands and the Joint Staff, JFSC also brought courses to the students. Having executed courses in Tampa to support US Special Operations Command and US Central Command, JFSC offered the satellite course to officers serving at US Northern Command, US Strategic Command, US Transportation Command, US European Command, and US Africa Command. JFSC also is preparing to offer this course as a blended program for Active Component Officers, in addition to the Reserve Officers who currently attend.

NDU supported DoD implementation of Executive Order 13595, "Instituting a National Action Plan on Women, Peace, and Security" (WPS) by incorporating WPS issues into multiple curricula and providing various forums for WPS instruction and exchange of ideas. For example, multiple programs incorporated WPS into the academic experience by hosting WPS-focused speakers, panel discussions, documentary screenings, and writing awards.

Business Operations: On the business operations side, this was the second year of a focused, university wide effort to strategically plan; assess and understand the costs of doing business; create a baseline from this understanding; balance resource allocations; and standardize university wide processes (e.g., Talent Management). The goal continues to be to operate effectively and efficiently with standard, repeatable, measureable, and auditable processes and procedures that support the core mission programs.

In November, the Chief Operating Officer organization conducted a Management Control Review with the assistance of the Joint Staff and other external organizations. Based on policy reviews and a strengthened relationship with the Director for Joint Force Development, NDU leadership received the authority to reassume responsibility and accountability for the assessment of the university's administrative and fiscal management control processes. Management control responsibilities had been assumed by the Joint Staff in 2012; this review returned management control responsibility to NDU. The results of this review, which focused primarily on compliance and audit requirements, were submitted to the Joint Staff in February.

Because NDU employees are essential and valued, the university evolved its Talent Management (TM) process to better encourage and develop them in a fair, predictable, and transparent way. The 2015 TM review was more holistic than previous years, including military faculty and staff, Title 5 (GS) staff, and faculty assigned from military, interagency, and industry partners. Across NDU, the leadership team made 107 renewal decisions, authorized hiring to fill more than 50 vacancies, managed pay adjustments and promotions, developed plans for employees needing improvement, and recognized top performers. Looking at the workforce holistically at both the university and component levels was informative and helped decision-makers at each level. The leadership also leveled the playing field by moving appointment end-dates to a standard summer cycle, versus individual hiring anniversaries, and started reviewing expiring appointments earlier to benefit both the employee and the university. Under this revised TM process conducted from May-September, most of those eligible were considered at least one year before their appointment end date, with some nearly two years before, significantly increasing the planning time available for both employees and managers. The majority of appointments this year were approved with appointment dates through July 2019.

The university's leadership team (i.e., President, Senior Vice President, Provost, Chief Operating Officer, College Commandants and Chancellors, and program directors) conducted a thorough review of all programs. This resulted in a strategic planning and programming process focused on academic and functional support programs versus component organizations. This in-depth review provided a clear accounting of the costs of every program, along with how resources (e.g., people, resources, and facilities) were being used to support each program. It also highlighted areas in which efficiencies might be achieved.

This review process also led to a re-evaluation of the university's mission and vision. An important outcome was that the team created new draft statements, which were subsequently

approved by the Chairman of the Joint Chiefs of Staff (note that approval came following this reporting period). These new statements guide the university's efforts and are as follows:

Chairman's Vision for NDU: NDU will create strategic advantage by developing joint warfighters and other national security leaders, and forging relationships through whole-of-nations and whole-of-government education programs, research and engagement.

Mission: NDU develops joint warfighters and other national security leaders through rigorous academics, research and engagement to serve the common defense.

NDU BY THE NUMBERS

Figure 1. NDU Students

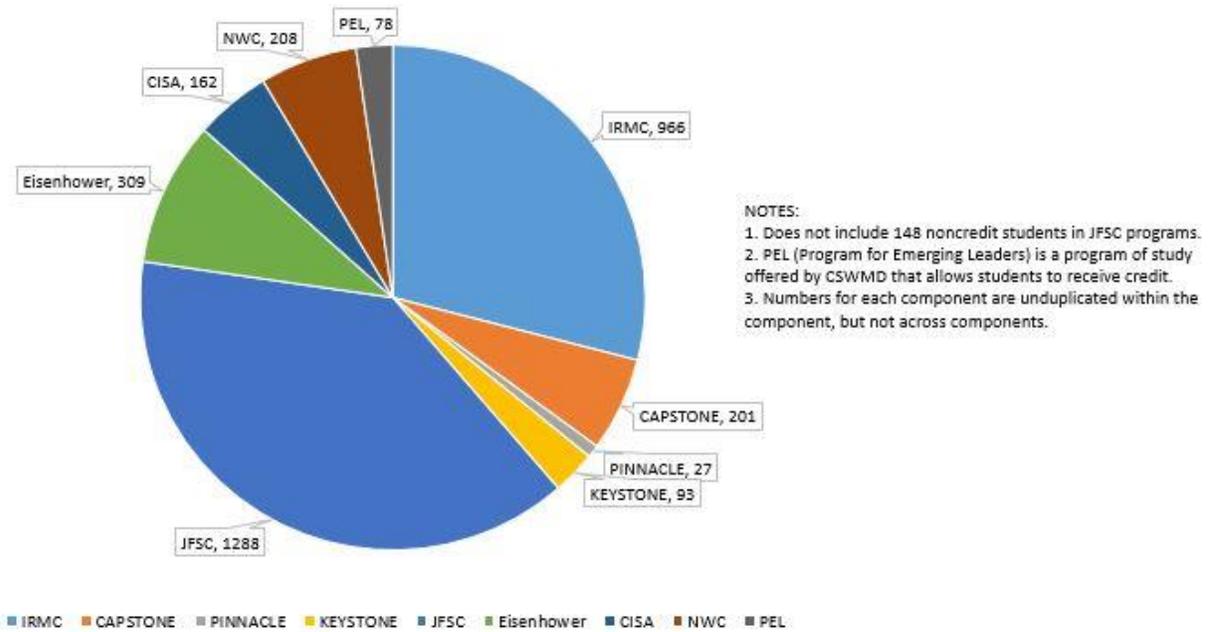


Figure 2. NDU Personnel

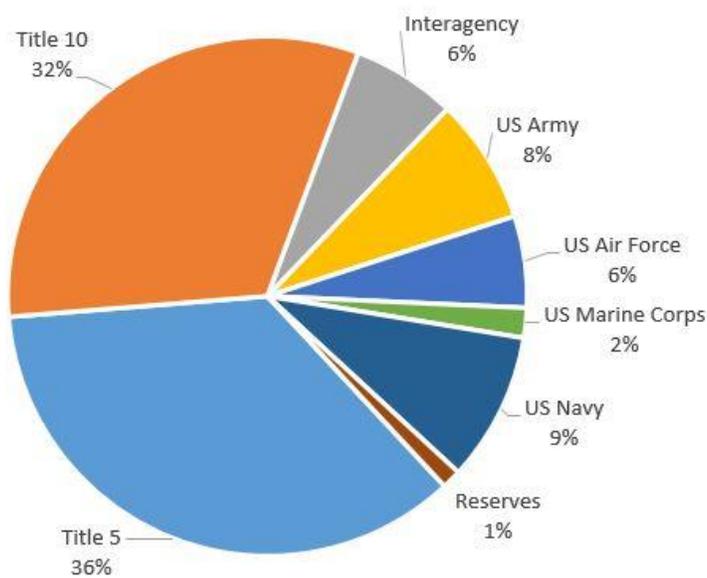


Figure 3. Title 10 Employees' Highest Level of Education

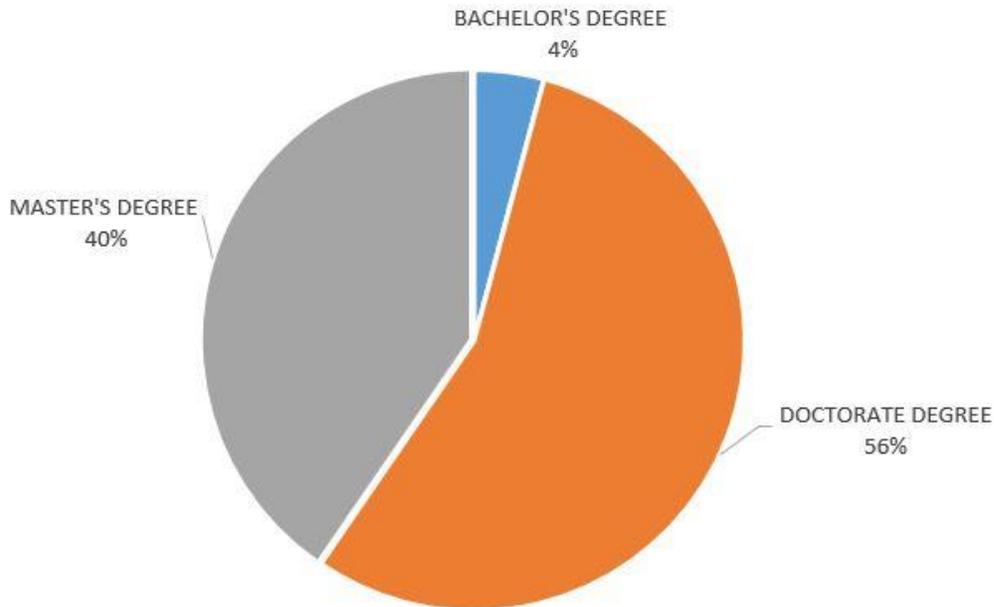


Table 1. FY 2015 University Fiscal Resources (\$M)

Category	Direct	Reimbursable	Total by Expenditure Category
Education/Leader Development	\$38.63	\$11.14	\$49.77
Scholarship	\$6.73	\$9.00	\$15.73
Institutional Enabler	\$42.24	\$7.22	\$49.46
Total by Funding Source (millions)	\$87.60	\$27.36	\$114.96

Table 2. FY 2016 University Fiscal Resources (\$M)

Category	Direct	Reimbursable	Total by Expenditure Category
Education/Leader Development	\$37.00	\$10.07	\$47.07
Scholarship	\$5.85	\$9.64	\$15.49
Institutional Enabler	\$41.20	\$10.90	\$52.10
Total by Funding Source (millions)	\$84.05	\$30.61	\$114.66

Table 3. University Facilities

Facility Name	Building Number	Campus	Square Footage
Lincoln Hall*	64	Fort McNair	257,698
Marshall Hall	62	Fort McNair	225,626
Normandy Hall	SC-1	Norfolk	165,695
Eisenhower Hall	59	Fort McNair	130,043
Roosevelt Hall and Annex	61 & 61A	Fort McNair	118,836
Okinawa Hall	SC-4	Norfolk	74,080
Marianas Hall	SC-400	Norfolk	39,382
Facilities Building	SC-401	Norfolk	17,498
Old Gym**	SC-126	Norfolk	10,400
Grant Hall - Africa Center / NDU Library***	20	Fort McNair	12,536
Davis Hall	21	Fort McNair	12,619
Africa Center	17	Fort McNair	2,791
Total Square Footage			1,067,204

*45,617 SF occupied by CHDS PC/NESA

**Returned to Navy/CNIC

***2,154 SF occupied by NDU

EDUCATION, RESEARCH AND ENGAGEMENT

NDU executes its education mission via five colleges, each with a distinct focus that provides uniquely valuable education and leader professional development opportunities. NDU's education programs offer a combination of rigorous graduate education and the ability to grant JPME II certification, a major requirement for the award of Joint Qualified Officer (JQO) status. Research and partnership programs throughout the university enhance the educational experiences of NDU's students.

Accreditation

NDU is accredited by the Middle States Commission on Higher Education, an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation. The university's initial accreditation was granted in 1997.

NDU's JPME programs are accredited by the Program for Accreditation of Joint Education (PAJE), a specialized accrediting agency of the Department of Defense under the aegis of the Chairman of the Joint Chiefs of Staff.

The SAC program is accredited by the Under Secretary of Defense for Acquisition, Technology and Logistics through a specialized accrediting process that is recognized by the Department of Defense.

The Information Assurance (IA) programs are accredited as Centers of Academic Excellence in Information Assurance Education by the Secretary of Defense through the National Security Agency.

President's Lecture Series

NDU's President's Lecture Series (PLS) complements the JPME curricula by providing students with uniquely valuable opportunities to see, hear, and engage with distinguished senior leaders, policy makers, and innovative strategic thinkers throughout the academic year.

Invitations to engage with NDU's students are based on alignment between each speaker's expertise and the curriculum. Guest lecturers discuss with students timely issues related to national security and foreign policy in an unpredictable and complex world. Based on their unique personal experiences, NDU's distinguished speakers share their insights on strategic leadership, the development and implementation of strategy, and the challenges and importance of effectively operating in joint, interagency, and multinational environments.

The PLS program was designed to promote three common outcomes for student learning:

Creative and Critical Thinking: Student comprehension leads to analysis, synthesis, and evaluation of key concepts, theories, and analytical approaches that shape strategic judgment and choice through understanding of:

- Critical thinking frameworks necessary for accurately grasping and effectively dealing with the strategic environment.
- The challenges associated with anticipating and managing complexity, uncertainty, change, and surprise.
- Enduring strategic lessons from a decade of war.

Strategic Leadership: Student comprehension leads to analysis, synthesis, and evaluation of key principles of strategic leadership involved in the conduct of national security affairs through understanding of:

- Decision-making that incorporates professional standards, shared values, ethical reasoning, and accepted precepts of civil-military relations.
- The complexities of leading and managing organizational change.
- The merits and efficacy of operating on intent through trust, empowerment, understanding, and shared risk (Mission Command).

Strategic Aspects of Joint Professional Military Education (JPME): Student comprehension leads to analysis, synthesis, and evaluation of inter-service, interagency, and international policy planning, decision-making, and implementation processes through understanding of:

- The content, purpose, and impact of capstone national and military strategy documents.
- The nature, importance, and impact of multinational relationships and capabilities.
- The instruments and elements of power and their effective integration for creatively resolving complex strategic problems.

These engagements are typically held in a non-attribution, “Chatham House Rule” environment to encourage candor in the speakers’ remarks and their question-and-answer engagements with the students, along with the follow-on discussions with students in the seminars.

This academic year, NDU’s students from all colleges benefited from engaging with these distinguished speakers:

- Gen Richard Myers (Ret.), former CJCS, NDU convocation
- GEN Martin Dempsey, then CJCS, “Strategic Leadership and Desired Learning Attributes”
- Gen Jean-Paul Palomeros (French Air Force), NATO Supreme Allied Commander Transformation, “Leading NATO’s Transition”
- Honorable Tinatin Khidasheli, Minister of Defense (Georgia); CISA Chancellor’s Lecture Series
- AMB Nicholas Burns, former Under Secretary of State; NWC Commandant’s Lecture Series
- Dr. Richard Kohn, University of North Carolina Department of History, “Challenges of Civil-Military Relations in a Time of Transition”

- ADM Harry Harris, PACOM Commander
- Father Bryan Hehir, Professor, Harvard University, “Ethics and Just War Tradition”
- Dr. Clinton Longnecker, University of Toledo, “Why Leaders Fail”
- AMB Ronald Neumann (former ambassador to Afghanistan, Bahrain, and Algeria), ADM Dennis Blair (former USPACOM Commander and DNI), and ADM Eric Olson (former USSOCOM Commander), “Complex Civil-Military Actions: The Imperative for a New Model”
- Tom Brokaw, “WWII Legacy”
- Speaker Newt Gingrich, “New Words for a New World”
- Congressman Randy Forbes and Hon. Michelle Flournoy, “South China Sea: Strategic Context, US National Interests, and the International Community”
- GEN Joseph Votel, USSOCOM Commander
- Hon. John Kerry, Secretary of State, “US Foreign Policy Agenda for 2016”
- Hon. Deborah Lee James, Secretary of the Air Force, NWC Commandant’s Lecture Series
- Gen Paul Selva, Vice Chairman of the Joint Chiefs of Staff, CSWMD workshop on “Countering Russia’s Strategy for Regional Coercion and War.”
- ADM Thad Allen (USCG, Ret.), ES Commandant’s Lecture Series, “Growing Challenges of Crisis Management”
- Dr. Hamdullah Mohib, Ambassador of the Islamic Republic of Afghanistan, CISA graduation, “Complex Dynamics Shaping Afghanistan’s Future”
- ADM (Dr.) James Stavridis; former commander of USSOUTHCOM, USEUCOM, and NATO SACEUR; “Thinking Strategically, Globally”
- John Brennan, Director of the CIA
- Gen Paul Selva, Vice Chairman of the Joint Chiefs of Staff

Distinguished speakers projected for the next academic year include:

- VADM Kevin Scott, DJ7, NDU convocation
- Gen Joseph Dunford, CJCS
- Senator John McCain
- Hon. Bujar Nishani, President of Albania
- Father Bryan Hehir, Professor, Harvard University, “Ethics and Just War Tradition”
- Gen Lori Robinson, USNORTHCOM and NORAD Commander
- GEN Colin Powell
- Dr. Craig Symonds, US Naval Institute and US Naval Academy
- Speaker Newt Gingrich
- AMB Tom Pickering

College of International Security Affairs (CISA)

The mission of the College of International Security Affairs (CISA) is to educate and prepare civilian and military national security professionals and future leaders from the US and partner nations for the strategic challenges of the contemporary security environment. CISA is the Department of Defense flagship for education and the building of partnership capacity in combating terrorism and irregular warfare at the strategic level. CISA prepares students for high-level policy, and command and staff responsibilities through its cutting-edge, graduate, interagency, and joint professional military education programs. CISA fulfills this mission through a Master of Arts in Strategic Security Studies (MASSS), graduate certificate programs, and various short courses.

Master of Arts in Strategic Security Studies (MASSS): The MASSS, which includes a thesis addressing a specific contemporary security issue, provides a common core and tailored areas of concentration for the Counterterrorism Fellowship (CTF) Program, South and Central Asia Security Studies Program (SCAP), and Joint Special Operations Master of Arts (JSOMA) Program at Fort Bragg, NC.

Counterterrorism Fellowship (CTF) Program: The CTF Program, also a JPME II level certification and war college experience, is the senior-level professional development flagship of the Office of the Secretary of Defense for Policy's (Special Operations/Low Intensity Conflict) worldwide combating terrorism educational portfolio. This program has produced more than 600 international graduates from 92 partner countries. The international students in the CT Fellowship at CISA return to their countries with strategic plans for the security challenges their countries are facing.

South and Central Asia Security Studies Program (SCAP): Developed at the request of the Chairman of the Joint Chiefs of Staff as a priority program to support US Central Command, SCAP supplements the in-theater experience of officers participating as strategic advisors in the "Afghanistan-Pakistan Hands" program with theoretical, analytical, and regional expertise in the security challenges associated with South and Central Asia. After graduation, most of the "hands" redeploy to duties in Afghanistan, Pakistan, or elsewhere in the region.

Joint Special Operations Master of Arts (JSOMA) Program: JSOMA is sponsored by US Special Operations Command and is a critical component of their strategy for educating and building successful leaders.

CISA graduate certificates include the International Homeland Defense Fellowship (IHDF) Program and the Nuclear and Energy Security Program (NESP). The NESP is built on core courses from the well-established IHDF Program to provide tailored curriculum for employees from the Department of Energy, Energy Information Administration, and National Nuclear Security Administration.

CISA runs the **Reserve Component National Security Course (RCNSC)**, a two-week seminar for 371 US Reserve Component senior officers and non-commissioned officers, allied officers, and select civilians working in national security. CISA also provided **Emerging Threats in the Contemporary Security Environment**, which is a two-week capstone course for 44 of NDU's international fellows.

CISA's international and multi-disciplinary faculty provide the college with a blend of academic, operational, and practical expertise from senior policy makers and security professionals. The majority of CISA's faculty members have earned doctoral degrees in security-related disciplines (e.g., history, political science, and international relations) from institutions around the world.

CISA strongly encourages faculty scholarship, ranging from publishing to participating in professional and academic meetings. This academic year, members of the CISA faculty published five academic books and numerous articles, provided policy guidance to both US and foreign governments, helped to red team strategies for the Joint Staff and Combatant Commands, and had more than 70 research engagements related to their areas of expertise. Notably, three faculty members were awarded prestigious OSD Minerva grants and four faculty members were awarded CISA Summer Research Fellowships – a program designed to further enhance faculty scholarship.

Committed to continued outreach and engagement with the academic community, think tanks, US and foreign governments, and CISA/NDU alumni, CISA hosted multiple events designed to enhance NDU's academic programs, as well as deepen partnerships in understanding today's contemporary security environment. In addition to an extensive guest speaker series, CISA hosted **Women in the Military**, a forum on integrating women into US military combat roles. This event aired on C-SPAN more than a dozen times, resulting in national coverage on this topic. In the spring, CISA co-hosted with the Federal Bureau of Investigation, a joint interagency symposium: **Hostage Recovery, Strategy, and Policy Implications**, which was open to the entire NDU community. CISA also partnered with the National Counterterrorism Center to hold its annual interagency conference on **Transitioning Realities in Terrorism and Policy**. Lastly, CISA hosted the Chief of Staff of the Army's study group completing a multi-volume manuscript on the history of the US Army in the Iraq War.

Table 4. CISA Overall Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	56	1	0	57
U.S. Air Force	14	0	0	14
U.S. Navy	9	0	0	9
U.S. Marine Corps	8	0	0	8
U.S. Coast Guard	0	0	0	0
International Officer	--	--	--	49
International Civilian	--	--	--	5
DoD Civilians	--	--	--	3
Industry Civilians	--	--	--	0
Interagency Civilians	--	--	--	17
Total Enrollment				162

Note: Faculty/staff students: 1 student from ISMO during AY 15-16 program enrollment is not included in the above numbers. Additionally, Active and Reserve components apply only to U.S. military services; thus numbers may not sum to total across Active/Reserve status.

Table 5. CISA Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service

	Agency	Enrollment
DoD Agencies	Defense Intelligence Agency	2
	National Geospatial-Intelligence Agency	1
	DoD Agencies Total	3
Non-DoD Agencies	Bureau of Diplomatic Security	1
	Customs and Border Protection Bureau	2
	Department of State	7
	Department of Transportation	1
	Immigration and Customs Enforcement Bureau	2
	National Counterterrorism Center	2
	National Nuclear Security Administration	2
	Non-DoD Agencies Total	17

Table 6. CISA Student Educational Background

Student Category	Completed ILC**	Completed SLC**	Joint Exp. **	Operational Exp. **	Command 0-5 Exp**	Command O-6 Exp. **	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Total***
U.S. Army	21	0	19	41	2	0	35	22	0	57
U.S. Air Force	7	1	7	8	2	0	5	9	0	14
U.S. Navy	2	1	3	7	1	0	6	3	0	9
U.S. Marine Corps	5	0	6	5	1	0	6	2	0	8
U.S. Coast Guard	0	0	0	0	0	0	0	0	0	0
International Officer	--	--	--	--	--	--	25	24	0	49
International Civilian	--	--	--	--	--	--	3	2	0	5
DoD Civilian	--	--	--	--	--	--	0	3	0	3
Interagency Civilian	--	--	--	--	--	--	5	10	2	17
Industry Civilian	--	--	--	--	--	--	0	0	0	0
Total	35	2	35	61	6	0				162

Note: 1 student from ISMO during AY 15-16 program enrollment is not included in the above numbers.

*Represents prior education earned upon admission to NDU program.

**U.S. Military students that are counted as having attended an ILC, SLC, Joint, or as having Operational, Command O-5, or Command O-6 Experiences upon admission to their NDU program. Professional military experiences/highest level of education are not mutually exclusive. Professional military experiences refer to ILC, SLC, Joint Experience, Operational Experience, Command O-5 experience, Command O-6 Experience.

***Unduplicated student enrollment number. This is not the sum across all columns.

Table 7. CISA International Students and Faculty

Country	Student International Officer	Student International Civilian
ALBANIA	0	1
ALGERIA	1	0
BAHAMAS, THE	1	0
BANGLADESH	1	0
BRAZIL	1	1
BULGARIA	0	1
CAMBODIA	0	1
COLOMBIA	3	0
DJIBOUTI	1	0
EGYPT	3	0
EL SALVADOR	1	0
GEORGIA	1	0
INDIA	1	0
JORDAN	2	0
KENYA	1	0
LEBANON	3	0
MALAYSIA	2	0
MOROCCO	0	1
NEPAL	1	0
NIGER	1	0
NIGERIA	1	0
OMAN	2	0
PAKISTAN	4	0
PERU	1	0
PHILIPPINES	2	0
POLAND	1	0
SAUDI ARABIA	3	0
SERBIA	1	0
SIERRA LEONE	2	0
TANZANIA	1	0
TRINIDAD AND TOBAGO	1	0
TUNISIA	1	0
TURKEY	2	0
UGANDA	3	0
Total	49	5

Table 8. CISA Faculty Educational Background

Student Category	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	JQO	SLC Graduate	Total**
U.S. Army	0	3	1	3	3	4
U.S. Air Force	0	1	1	1	2	2
U.S. Navy	0	4	0	3	4	4
U.S. Marine Corps	0	0	0	0	0	0
U.S. Coast Guard	0	0	0	0	0	0
International Officer	0	0	0	0	0	0
International Civilian	0	0	0	0	0	0
DoD Civilian (Title 5)	0	2	3	0	0	5
DoD Civilian (Title 10)	0	2	26	0	0	28
Contractor	0	0	1	0	0	1
Interagency Civilians	0	8	1	0	0	9
Total	0	20	33	7	9	53

Note: JQO refers to Joint Qualified Officer and SLC refers to Senior Level College.

* This is an unduplicated count that represents faculty highest degree earned.

** Total Unduplicated count of faculty category.

Eisenhower School

The Dwight D. Eisenhower School for National Security and Resource Strategy (ES) continued to pursue the highest levels of academic excellence in accomplishing its mission, while adapting its curriculum to new strategic resource challenges and complexities in the international security environment.

With a continued focus on strengthening, sustaining, and improving our teaching mission, the ES continues to comprehensively review the curriculum to ensure alignment to mission requirements, stakeholder expectations, and fiscal realities. This work continued into AY16, identifying potential enhancements of curriculum content, structure, evaluation methodologies, and delivery techniques for AY17 and beyond. In addition to assessing the Joint Operating Environment 2035 and the Chairman's Special Areas of Emphasis in the curriculum build for AY17, the school undertook a major effort to implement standard rubrics for student deliverables. In addition, each deliverable was directly linked to the school's OPMEP Joint Learning Objectives. This initiative will greatly enhance faculty feedback to students and provide a wealth of direct assessment data on achievement of educational objectives to support curriculum review and development.

To make the most optimal use of faculty resources and best accomplish the school's mission to examine national-level resourcing in a constrained environment and evaluate the challenges of aligning budgets, strategies, and defense priorities, the ES is organized into four core departments, each manned with subject matter experts.

- The **National Security and Policy Studies (NSPS)** department teaches interdisciplinary courses on international relations, public policy, and macroeconomics. Core courses include *National Security Policy and Strategy* (NSPS) and *Economics of National Security* (ENS).
- **Defense Strategy, Acquisition, and Resourcing (DSAR)** department teaches a two-course series on military strategy, planning, and strategic resource management, to include the acquisition and procurement of materiel and services. Core courses include *Defense Strategy and Resourcing* (DSR) and *Strategic Acquisition and Resourcing* (SAR). In AY 16, the ES renamed the former *Defense Strategy and Resource Department* to the *DSAR Department* in recognition of the significant role that Acquisition plays in the ES curriculum.
- The **National Security and the Industrial Base (NSIB)** department incorporates and integrates the *Industry Study* (IS) course with the *Industry Analytics* (IA) course, both taught in the spring.
- The **Strategic Leadership (SL)** department continues to teach the core *Strategic Leadership 1* (SL1) and *Strategic Leadership 2* (SL2) courses on personal development and organizational change management, and manages the EADP program, described below.

These core courses are underpinned by the *Strategic Leader Foundations Course* (SLFC) during the first five weeks of the academic program and the National Security Exercise (NSE) as a synthesis event for the fall semester.

In AY16, the ES made two changes to the DSAR curriculum:

- First, a budget formulation exercise was added to the SAR course.
- Second, the Individual Student Research Paper, initiated in AY15, was modified to become the Individual Strategic Resourcing Paper (ISRP), which synthesizes the concepts students are exposed to in the DSR, SAR, and other courses, and is a paper designed to demonstrate a synthesis of concepts learned over the two-semester curriculum.

In addition to these changes, several school-wide exercises in the core courses, to include a Committee on Foreign Investment in the United States (CFIUS) negotiation exercise, the Nuclear Strategy exercise, and the DoD Budget exercise, promote the synthesis and integration of subject matter covered during the ES curriculum.

The Industry Study program, housed within the NSIB department, is a core element of the academic program that allows students to analyze and synthesize national security imperatives, along with real world resourcing challenges in business, industry, and government. The field studies experience is key to developing graduates who can bridge the government-industry gap through first-hand experiential interactions with government and business leaders around the world. ES students were able to participate in domestic and international industry field studies during AY16. This kind of experiential learning provided every ES student a unique and valuable opportunity to interact with government leaders, business executives, trade associations, and interagency partners. Assessments of the industries studied by ES students are made available for public review on the NDU website; the public-release reports serve as capstone documents for the seminars that comprise the ES student body.

ES faculty scholarship is focused on the construction of the curriculum and direct preparation for the teaching mission. Every lesson in every course demands a considerable research effort by the faculty member responsible for the lesson, amounting to a full literature survey on the subject. This effort is then built upon by faculty members tasked with teaching the lesson. In addition, many faculty are active participants in professional associations and publish articles in their areas of expertise.

Senior Acquisition Course (SAC) Concentration Program. The Defense Acquisition Workforce Improvement Act (DAWIA) of 1990 authorized the Eisenhower School to be designated by the Under Secretary of Defense (Acquisition, Technology, and Logistics) (USD(AT&L)) to conduct the Senior Acquisition Course for selected students, in partnership with the Defense Acquisition University (DAU). This designation capitalizes upon an institutional core competency long-standing at the Eisenhower School: Education in “procurement” was explicitly cited in the School’s original 1924 Charter (as the Industrial College of the Armed Forces) and continues today in its mission of joint education with special emphasis on developing senior leaders in support of national security.

As such, the Eisenhower School’s Senior Acquisition Course (SAC) at National Defense University (NDU) is the pre-eminent course for members of the Acquisition Corps in the

Department of Defense (DoD). The SAC course is designed to prepare selected military officers and civilians – already highly experienced and well-credentialed – for senior leadership and staff positions throughout the defense acquisition community.

The SAC consists of the entire 10-month ES core curriculum, complemented by selected elective courses that address senior-level contemporary and future policy issues in the field of acquisition. This is supported by completion of an acquisition-related research project.

Students are selected for the SAC by their respective services or agencies. Military officers are selected during their senior service school selection process and designation by their Defense Acquisition Career Manager (DACM). Civilians apply through and/or are selected by their service or agency DACM.

Along with those students selected by central boards, the DACMs each year typically approve the addition of a limited number of Level III certified (Acquisition Corps) students seeking admission from the class at the outset of the ES academic year. Additionally, students from other government agencies or international students with extensive acquisition-related experience may be accepted into the program, if their experience equates to that of DAWIA Level III.

Program Managers Course (PMT-401). This course, which is executed in collaboration with the DAU, has been offered to ES students enrolled in the SAC since AY2007. Students who elect PMT-401 are automatically enrolled in courses 6152 and 6153, both of which are ‘double’ electives worth 4 credit hours each. These courses fulfill the students’ elective and research project requirements for the ES degree program with an ‘overload’ of 4 credit hours. Students who complete these courses receive credit for both the Senior Acquisition Course and for DAU’s Program Manager’s Course (PMT-401), the latter of which is statutorily required (10 U.S.C. §1735) for acquisition leaders selected as Program Executive Officers (PEOs), Deputy PEOs, or as Program Managers/Deputy Program Managers for ACAT I, IA, and II programs.

Following the Harvard Business School case-study method, the cases used in the course are structured around lesson areas covering 54 performance outcomes and competencies established for DAU’s Program Manager’s Course (PMT-401). These case studies provide real-life acquisition-related challenges and dilemmas that offer students the opportunity to enhance the analytical, critical thinking, and decision-making skills required to lead large, complex programs and program support organizations. The challenges and problems that program managers, program executive officers, and senior stakeholders engaged in defense acquisition typically encounter – properly emulated in the classroom – provide the basis for a profound, practical learning experience. Students apply a variety of analytical tools and conceptual frameworks to evaluate defense acquisition problems from a program manager’s perspective and to evaluate, synthesize, select, and defend courses of action available to the decision maker. Team projects and simulations round out and enrich the course. The cases and simulations are conducted at ES, although they are facilitated by certified PMT-401 faculty members from DAU’s Defense Systems Management College (DSMC) campus at Fort Belvoir,

Virginia. There is also a two-day News Media Training event hosted at DSMC, which entails local travel for students and supporting ES faculty.

Long-Term Strategy (LTS) Concentration Program. Launched in the fall of 2010, the LTS program's main goal is to provide selected students the opportunity to learn how to evaluate and assess the strategic implications of trends shaping the future security environment, and to think critically about the link between long-term strategy and defense investments. The LTS program has had a long-standing relationship with the OSD Office of Net Assessment, which has provided students with the opportunity to conduct research on current, strategic-level topics of interest to DoD leadership. This program also provides a cross-disciplinary approach to strategy development and resourcing (international affairs, business strategy, and technology). Special emphasis is placed on "competitive strategies" concepts (functional and investment categories) as related to strategy development and defense investments, with an Indo-Asia-Pacific geographic application focus. The program enrolled 10 students during AY 15-16 in the following courses:

- Seminar in Diagnostic Net Assessment (focused on the appraisal of military balances and long-term military-technological competitions) and Defense Strategic Planning (emphasis on long-term defense planning methodologies).
- Military Technology Diffusion and Asian Defense Markets Dynamics (focused on the evaluation of military technology diffusion trends and defense market dynamics on the U.S. current and future defense posture, and alliance structure in the Indo-Asia-Pacific region).
- Seminar in Long-Term Strategy Research (where students undertook 3 team-research projects sponsored by OSD Net Assessment).

Supply Chain Management (SCM) Concentration Program. Supply Chain Management is a driving force behind America's economic growth, prosperity, and Defense Logistics; therefore, it is important to understand the critical role supply chains play in supporting American industry and national security. The SCM program is designed to prepare students with the skills to take supply chain management concepts and practices, and apply them within DoD's Logistics Transformation, and to develop a broader understanding of integrated logistics systems. The program coordinates with DoD and supporting agencies to enhance a common understanding and appreciation for supply chain management's ability to create efficiencies, while effectively supporting the war-fighter. Seminar sessions are taught using case studies and experts from industry and government to examine the benefits of supply chain management. This classroom experience is augmented by visits to firms and DoD agencies to discuss the value of supply chain management and the need for logistics transformation. SCM program students conduct field studies visits to such organizations as USTRANSCOM; Boeing Corporation; Huntington-Ingalls Ship Building; Naval Stations Norfolk, VA and Oceana, VA; Defense Depot Susquehanna, PA; and Letterkenny Army Depot.

Eisenhower School's European Studies Concentration and NDU's Combatant Command Scholars Program. In response to an NDU effort to increase opportunities for study and research in important geopolitical regions, ES created the European Studies Concentration for

AY16. The European Studies Concentration provides in-depth understanding of the history, politics, economic, and security dimensions of US-European relations and prepares students for leadership positions in, or related to, Europe. It consists of two courses (3 credit hours each): The European Union: Past, Present and Future (Fall semester), and European Politics and Security (Spring semester). This concentration is aligned with NDU's Combatant Command Scholars Program, which offers students an extraordinary opportunity for policy research on a topic of interest and relevance to a specific combatant command. This began as the EUCOM Scholars Program. Competitively selected, EUCOM Scholars enrolled in the European Studies Concentration and earn 2 credit-hours to conduct independent research and field studies to policy-making and policy research agencies, and organizations in the US and abroad. EUCOM Scholars (military and civilian students who are US citizens) deliver a research paper and a concise senior-level briefing to EUCOM leadership.

Executive Assessment and Development Program (EADP). The Executive Assessment and Development Program (EADP) is an extensive, multi-instrument, integrated assessment battery used to assess the preferences, capabilities, strengths, and weaknesses of NDU students, particularly geared towards the skills they will need to succeed at the strategic level. It is an integral part of the ES curricula for native English-speaking students; a different instrument, Insights Discovery, is provided for use by non-native English-speaking International Students at ES.

The EADP is a web-based assessment and development program. Students are registered and provided a login and password by e-mail, which allows them to access the EADP website where they register raters for the 360° feedback survey. Once registered, each rater receives a tailored e-mail from the EADP Administrator, which allows the rater to complete the 360° feedback survey on the participant. When a participant has completed all the self-assessment instruments and received at least two 360° ratings from each rater category, the EADP Administrator generates a unique, individually-tailored feedback report. An important aspect of the report is the identification of Career Architect® competencies, which may represent opportunities for personal development. Faculty counselors are certified by completing a 10 hour training/certification workshop conducted over a 2 week period in August of each year. More important, ES faculty members from the Department of Strategic Leadership conduct one-on-one feedback session with each student to discuss the findings and their implications for both developmental work to be done at ES (e.g., elective courses) and follow-on development the student will undertake on his/her own. This EADP approach was recognized as an institutional best practice by the last Program for Accreditation of Joint Education (PAJE) inspection for ES in 2010.

Strategic Partnerships

Institute for Higher Education in National Security (IHEDN). The Research and Technology Policy course (ES-6104) is a key elective in the ES SAC program. This course is unique among SAC electives at ES in that it is carried out jointly with a committee of French military officers attending the Institute for Higher Education in National Security (IHEDN), a war college

managed by the French Defense Procurement Agency (DGA), located at the École Militaire in Paris. The students from both schools conduct collaborative research on a topic of common interest related to the effective management and sustainment of innovation and technology within the trans-Atlantic defense industrial bases. Budget permitting, each year's course also involves a one-week field study by U.S. students in Europe for collaborative meetings, and a one-week field study by French students to the US. The course deliverable at the end of each year is a joint-school policy-options paper, which the students brief to senior leaders in the defense department and ministry of each respective nation.

Shortly after the inception of the ES SAC Concentration Program as a DAWIA workforce development initiative, the college initiated the French/U.S. collaborative SAC elective course in AY1995 by an agreement between the Under Secretary of Defense and the Director of the French DGA. Course capacity each year is variable, based on budgets and other factors, and averages around 10 students. Over the history of the course, acquisition professionals have enhanced their ES and SAC education by focusing on a joint collaborative research effort with their counterparts in the French DGA, creating critical senior-leader networks, and building the capacity to effectively manage and sustain innovation and technology within the trans-Atlantic defense industrial bases.

Adaptive and Agile Leaders Network (AALN). Launched in AY2015, the Adaptive and Agile Leaders Network program is a concentration developed in collaboration with Ori Brafman and the Haas School of Business at the University of California, Berkeley. The focus of the program is network-building: Creating outreach opportunities for participating students and faculty that bring together diverse groups of people from private industry, different levels of government, and the non-profit sector, all of whom share a common interest or focus. More than simply an exercise in networking, the participants are encouraged to develop approaches to sustain the relationships that are forged during the academic year, and "hand off" those relationships to the next cohort of participating students. In AY2016, three focus areas were explored by the students and faculty enrolled in this program: Veteran reintegration, environment, and humanitarian assistance.

Table 9. Eisenhower Overall Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	60	1	1	62
U.S. Air Force	51	3	3	57
U.S. Navy	32	0	0	32
U.S. Marine Corps	15	2	0	17
U.S. Coast Guard	3	0	0	3
International Officer	--	--	--	30
International Civilian	--	--	--	2
DOD Civilian	--	--	--	59
Interagency Civilian	--	--	--	45
Industry Civilian	--	--	--	2
Total				309

Note: Active and Reserve components apply only to U.S. military services; thus numbers may not sum to total across Active/Reserve status.

Table 10. Eisenhower Student Educational Background

Student Category	Completed ILC**	Completed SLC**	Joint Exp.**	Operational Exp.**	Command O-5 Exp**	Command O-6 Exp**	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Other*	Total***
U.S. Army	47	0	15	30	40	2	4	54	4	0	62
U.S. Air Force	48	0	45	44	40	0	0	54	3	0	57
U.S. Navy	8	0	19	0	14	2	10	22	0	0	32
U.S. Marine Corps	11	0	2	17	15	0	7	10	0	0	17
U.S. Coast Guard	0	0	0	0	2	1	0	2	1	0	3
International Officer	--	--	--	--	--	--	22	7	1	0	30
International Civilian	--	--	--	--	--	--	1	1	0	0	2
DOD Civilian	--	--	--	--	--	--	15	36	8	0	59
Interagency Civilian	--	--	--	--	--	--	22	19	4	0	45
Industry Civilian	--	--	--	--	--	--	2	0	0	0	2
Total	114	0	81	91	111	5	83	205	21	0	309

*Represents prior education earned upon admission to NDU program.

**U.S. Military students that are counted as having attended an ILC, SLC, Joint, or as having Operational, Command O-5, or Command O-6 Experiences upon admission to their NDU program. Professional military experiences/highest level of education are not mutually exclusive. Professional military experiences refer to ILC, SLC, Joint Experience, Operational Experience, Command O-5 experience, Command O-6 Experience.

***Unduplicated student enrollment number. This is not the sum across all columns.

Table 11. Eisenhower Civilian Students by Executive-level Agency, Subagency, Bureau, and Service

	Agency	Enrollment
DOD Agencies	Defense Acquisition University	1
	Defense Contract Management Agency	1
	Defense Information Systems Agency	1
	Defense Intelligence Agency	5
	Defense Logistics Agency	4
	Department of Defense	2
	Department of the Air Force	10
	Department of the Army	10
	Department of the Navy	12
	Joint Staff - J4	1
	Joint Staff - J6	1
	Military Sealift Command	1
	National Geospatial-Intelligence Agency	3
	National Security Agency/Central Security Agency	3
	Office of the Secretary of Defense	2
	Office of the Under Secretary of Defense for Policy	2
	DoD Agencies Total	59
NON-DOD Civilian	Central Intelligence Agency	2
	Department of Commerce	2
	Department of Energy	2
	Department of Homeland Security	8
	Department of State	18
	Department of Transportation	1
	Department of Veterans Affairs	3
	Federal Bureau of Investigation	3
	General Services Administration	2
	Office of Management and Budget	1
	United States Agency for International Development	3
	Non-DoD Agencies Total	45
Industry Civilian	Logistics Management Institute	1
	Georgia Tech Research Institute	1
	Industry Total	2

Table 12. Eisenhower International Students and Faculty

Country	Student International Officer	Student International Civilian
AFGHANISTAN	1	0
ALGERIA	1	0
ARGENTINA	1	0
AUSTRALIA	1	0
BRAZIL	1	0
CANADA	2	0
CZECH REPUBLIC	1	0
EGYPT	1	0
FRANCE	1	0
GUATEMALA	1	0
INDONESIA	1	0
ISRAEL	1	0
JORDAN	1	0
KUWAIT	1	0
MACEDONIA, THE REPUBLIC OF	1	0
MALAYSIA	1	0
MEXICO	2	0
MONGOLIA	1	0
MOROCCO	0	1
NEW ZEALAND	1	0
NIGERIA	1	0
OMAN	1	0
PAKISTAN	2	0
PANAMA	0	1
PHILIPPINES	1	0
POLAND	1	0
SAUDI ARABIA	1	0
UKRAINE	1	0
UNITED ARAB EMIRATES	1	0
Total	30	2

Table 13. Eisenhower Faculty Educational Background

Faculty category	Bachelor's Degree*	Master's Degree*	Doctoral/Professional Degree*	JQO	SLC Graduate	Total**
U.S. Army	0	8	4	10	10	12
U.S. Air Force	0	9	1	9	10	10
U.S. Navy	0	7	0	6	7	7
U.S. Marine Corps	0	2	0	2	2	2
U.S. Coast Guard	0	1	0	0	0	1
International Officer	0	0	0	0	0	0
International Civilian	0	0	0	0	0	0
DoD Civilian (Title 5)	0	0	0	0	0	0
DoD Civilian (Title 10)	0	8	30	0	0	38
Interagency Civilians	0	14	4	0	0	18
Total	0	49	39	27	29	88

Note: JQO refers to Joint Qualified Officer and SLC refers to Senior Level College. Additionally, this table includes two adjuncts (1 w/PhD; 1 w/ Master's).

* This is an unduplicated count that represents faculty highest degree earned.

** Total Unduplicated count of faculty category.

Information Resources Management College (IRMC)

Over the course of this academic year, the Information Resources Management College (IRMC) continued the development of our cyberspace education programs to meet current and future needs of the Department of Defense, and our many partners across the whole of government, in the private sector, and internationally. On June 9, IRMC awarded 91 Master of Science in Government Information Leadership degrees to highly deserving graduates. Included in the group that attended the graduation ceremonies was our first international master's degree graduate, Dragan Mladenovic from Serbia. Also among the graduates was the Department of Defense's first Senior Service College (SSC) class of students whose studies centered on employing information and cyberspace to achieve national security outcomes. The 14 military and civilian students spent ten months in a rigorous program of study focused on developing the habits of mind, conceptual foundations, and cognitive faculties needed to successfully employ information and cyberspace capabilities. The program included engagements with strategic practitioners, visits to critical cyberspace organizations, competing in the Atlantic Council Cyber 9/12 Competition, and an overseas practicum to EUCOM, AFRICOM, NATO, and Estonia, during which the students engaged with senior military leaders, civilian leadership of the alliance, and with governmental officials who have lived through significant cyberattacks. The military members of the class received their degrees and will receive Joint Professional Military Education Level II credit for completing the program.

Of note, one of the SSC graduates, LTC Alan Dinerman, collaborated with Dr. Jim Chen (IRMC faculty) to develop a paper and presentation titled, "On Cyber Dominance in Modern Warfare." Both were invited to present their paper at the 15th European Conference on Cyber Warfare and Security, held at the Bundeswehr University, in Munich, Germany.

The IRMC Hall of Fame Award was presented to Ms. Melissa Hathaway for her constant support of IRMC's objectives and her notable achievements in providing advice and counsel on cyber security to senior leaders in government and the private sector.

The CFO Academy continued to teach military and civilian leaders in the federal government's financial management cadre. The academy taught on-site courses, presented at financial management conferences, and worked with the Office of Management and Budget (OMB) at OMB sponsored CXO workshops. The academy also provided on-the-spot education at DoD-sponsored events to meet financial management certification requirements, and at civilian agency workshops addressing Federal financial management and strategic leadership lessons.

International collaboration continued to be of high importance to the college. Various meetings and engagements allowed us to exchange ideas, offer assistance, and support international partnerships. Participants included government, military, and private sector representatives from Germany, Sweden, Brazil, Vietnam, Israel, the United Kingdom, Australia, Denmark, and Mexico. Many sessions were focused on advice and counsel for these nations to develop their own cyberspace educational initiatives.

The IRMC is adopting a more normal academic year schedule to include two semesters and a short summer term. This schedule provides faculty and staff better planning horizons to coordinate curriculum changes, make facilities improvements, engage in team initiatives, and prepare for the coming academic year. We also reduced the per faculty teaching hours to provide the time and space for faculty to more intently engage in keeping their curricula fresh, current, and cutting edge; to engage in research that enhances the curricula; and to provide thought leadership in the cyberspace domain. The re-baselining of faculty classroom hours does not disrupt IRMC efforts to provide education in context at sites other than NDU. Teaching at COCOMs and offsite locations is a way IRMC makes its education more readily available to students who need it and the college will continue to do so.

Table 14. IRMC Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	79	5	6	90
U.S. Air Force	95	8	11	114
U.S. Navy	91	4	0	95
U.S. Marine Corps	15	0	0	15
U.S. Coast Guard	21	0	0	21
International Officer	--	--	--	21
International Civilian	--	--	--	1
DoD Civilian	--	--	--	502
Interagency Civilian	--	--	--	92
Private Sector	--	--	--	15
Total Enrollment				966

Note: Faculty/staff students: 7 faculty/staff who completed courses are not included in the above numbers. Additionally, Active and Reserve components apply only to U.S. military services; thus numbers may not sum to total across Active/Reserve status.

Table 15. IRMC Civilian Students by DOD Agency, Sub-Agency, Bureau and Service

DoD Agencies	Enrollment
Arkansas Army National Guard	1
California Air National Guard	1
Defense Acquisition University	1
Defense Commissary Agency	1
Defense Contract Audit Agency	4
Defense Finance and Accounting Service	5
Defense Health Agency	6
Defense Human Resources Activity	2
Defense Information Systems Agency	49
Defense Intelligence Agency	9
Defense Logistics Agency	13
Defense Security Service	11
Defense Threat Reduction Agency	1
Department of Defense	27
Department of Defense Office of Inspector General	4
Department of the Air Force	115
Department of the Army	94
Department of the Navy	111
Fleet Readiness Center East	1
Joint Staff	3
National Geospatial-Intelligence Agency	2
National Guard Bureau	3
National Security Agency/Central Security Agency	4
Office of the Secretary of Defense	5
Office of the Under Secretary of Defense	1
Ohio National Guard	2
Organization of the Joint Chiefs of Staff	1
Pentagon Force Protection Agency	3
United States Cyber Command	3
United States European Command	2
United States Special Operations Command	12
United States Transportation Command	4
Washington Headquarters Services	1
Total	502

Note: This table does not include 7 NDU Faculty and Staff who were enrolled in an IRMC course.

Table 16. IRMC Civilian Students by Non-DOD Agency, Sub-Agency, Bureau and Service

Non-DoD Agencies	Enrollment
Bureau of Engraving and Printing	1
Congressional Budget Office	1
Consumer Financial Protection Bureau	1
Department of Agriculture	3
Department of Commerce	3
Department of Education	1
Department of Energy	7
Department of Health and Human Services	1
Department of Homeland Security	6
Department of Housing and Urban Development	1
Department of Interior	3
Department of Labor	1
Department of State	34
Department of Treasury	2
Department of Veterans Affairs	4
Department of Homeland Security	1
Director of National Intelligence	1
Environmental Protection Agency	1
Federal Aviation Administration	4
Federal Bureau of Investigation	3
Federal Communications Commission	1
Federal Trade Commission	1
General Services Administration	2
House of Representatives	1
Office of Personnel Management	1
Small Business Administration	1
Social Security Administration	1
Unified Port of San Diego	1
United States Court of Appeals for Veterans Claims	2
US Agency for International Development	2
Total	92

Table 17. IRMC International Student Enrollment

Country	Student International Officer	Student International Civilian
ALGERIA	1	0
BRAZIL	1	0
BURUNDI	1	0
CZECH REPUBLIC	1	0
FINLAND	1	0
INDONESIA	2	0
SOUTH KOREA	1	0
MOROCCO	1	0
PAKISTAN	3	0
PORTUGAL	7	1
OMAN	2	0
Total	21	1

Table 18. IRMC Faculty Educational Background

Faculty Category	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Total**
U.S. Army	0	2	2	4
U.S. Air Force	0	1	0	1
U.S. Navy	0	3	0	3
U.S. Marine Corps	0	0	0	0
U.S. Coast Guard	0	0	0	0
International Officer	0	0	0	0
International Civilian	0	0	0	0
DoD Civilian (Title 5)	0	0	0	0
DoD Civilian (Title 10)	0	13	13	26
Contractor	0	3	0	3
Interagency Civilian	0	0	0	0
Private Sector	0	0	1	1
Total	0	22	16	38

* This is an unduplicated count that represents faculty highest degree earned.

** Total Unduplicated count of faculty category.

Joint Forces Staff College (JFSC)

Education

The Joint Forces Staff College (JFSC) mission is to educate national security professionals to plan and execute joint, multinational, and interagency operations to instill a primary commitment to joint, multinational, and interagency teamwork, attitudes, and perspectives. JFSC is the premier military institution for educating and acculturating mid- to senior-level officers and selected civilians in joint operational-level planning and warfighting. Rear Admiral Jeffrey Ruth, USN, is the 33rd Commandant.

The College addressed the needs of the 21st-century warfighting environment by educating students using a variety of curriculum delivery methods including distance, in-residence, and satellite classrooms. Also, the Joint, Command, Control, and Information Operations School graduated an additional 216 students (68 credit bearing) in a variety of courses as directed by CJCSI 6245.01 and other directives. The college offers a service-balanced, communal environment located in the joint military epicenter of Hampton Roads, Virginia, where the students live, learn, and socialize together. The students benefit from being located in the midst of a mixture of large Navy, Air Force, and Army commands, which allows them to observe how each service tackles common problems, such as cyber defense, joint logistics, kinetic and non-kinetic fires, and information operations.

JFSC comprises four schools:

- Joint Advanced Warfighting School (JAWS)
- Joint and Combined Warfighting School (JCWS)
- Joint Continuing and Distance Education School (JCDES)
- Joint Command, Control, and Information Operations School (JC2IOS)

Graduates of the **Joint Advanced Warfighting School (JAWS)** earn the Master of Science in Joint Campaign Planning and Strategy, and JPME II qualification. The 36 AY16 graduates are master campaign planners, able to lead joint planning efforts in developing comprehensive campaign and contingency plans. Each year, all JAWS military graduates are assigned to designated planning billets at Combatant Commands, where they assume critical planning staff responsibilities. The rigorous curriculum focuses on the theory of war, applications in strategy and decision-making, adaptive planning in deliberate and crisis situations, as well as extensive writing and research.

The **Joint and Combined Warfighting School (JCWS)** sets the standard for JPME II by preparing joint staff officers, international partners, and interagency civilians to solve complex problems within an operational planning framework. The 979 JCWS AY16 graduates provide more than half of the joint community's total number of JPME II certified officers. JCWS augmented the in-residence program in Norfolk by conducting classes at satellite locations for the following Combatant Commands:

- USCENTCOM/USSOCOM at MacDill AFB, Florida
- USNORTHCOM at Peterson AFB, CO
- USTRANSCOM at Scott AFB, IL
- USSTRATCOM at Offutt AFB Nebraska
- USEUCOM/USAFRICOM at Kelley Barracks, Stuttgart, Germany
- Additional satellites are projected in AY17

The **Joint Continuing and Distance Education School (JCDES)**, formerly conducted the Advanced Joint Professional Military Education (AJPME) program for Reserve Component officers. However, a revision this year to the Officer Professional Military Education Policy (OPMEP) changed the name of AJPME to Joint and Combined Warfighting School-Hybrid (JCWS-H) and granted the school authorization to provide JPME II certification for all students graduating from 25 November 2015 forward. The JCWS-H program graduated 199 Reserve Component officers (and 2 civilians) who filled critical joint billets alongside their active duty colleagues. JCWS-H is a 40-week, blended-learning course consisting of two distance learning (DL) periods and two face-to-face (F2F) periods. During the DL phases, students participate in synchronous and asynchronous group activities and seminar exercises. The online activities are designed to require approximately 6-8 hours per week. Students must complete assigned lessons during scheduled one- or two-week periods.

The **Joint Command, Control, and Information Operations School (JC2IOS)** continued to support the Joint Staff J6 and J39, hosting five short courses focusing on information operations (IO), operational security, military deception, and command and control. JC2IOS graduated a total of 216 students this academic year. The Information Operations (IO) Division conducted the eight-week Joint IO Planners Course, a two-week Joint Military Deception Training Course, and a one-week Defense Operational Security Planning Course.

Engagement

JFSC faculty members are active nationally and globally, providing support to a wide number of organizations. The college provided Combatant Commanders and other joint entities mobile training teams (MTT) for a variety of operational level training and education this year. Additionally, JCDES continued to expand the JCWS-H (previously AJPME) Alumni organization via the Blackboard learning management system and a discussion group on LinkedIn. This alumni organization serves as a platform for networking, discussions, and provides a method of communication with graduates of JCDES programs.

Engagement activities this year included:

- JCWS and JCDES conducted an MTT for the 353rd Army Civil Affairs Command.
- JC2IOS conducted a DOPC MTT visit to the US Army Information Operations Proponent.
- Dr. Robert Antis (JAWS) participated in the Defense Education Enhancement Program (DEEP), sponsored by OSD using NATO allocated funding managed through the Marshall

Center, in support of the USEUCOM theater campaign plan. He presented a Workshop on Active Learning and Classroom Assessment Techniques to the faculty of the Ukrainian National Defense University in Kyiv, Ukraine.

- Dr. Gregory Miller (JAWS) spoke to the Air War College on “Testing the Fourth Wave: Religion and the ‘New Terrorism.’”
- Dr. Fred Kienle (JCWS) participated in the Defense Education Enhancement Program in August, when he presented an Andragogy and Educational Assessments Workshop to the faculty and leadership of the Ukraine National Defense University.
- JCWS instructors hosted a CISA visit to JFSC and then conducted a Yorktown Staff Ride for the CISA students and faculty.
- Associate Professor Gary McCorkindale supported the Joint Staff J7 as an observer for the Army War College PAJE.
- Associate Professor Dan McCauley and Assistant Professor Mark McGuire (JCWS) served on the Joint Staff J-7 PAJE team contributing to the on-site accreditation of the Distance Education Program curriculum at the Army War College through the evaluation of OPMEP Learning Areas.
- Dr. Gregory Miller (JAWS) spoke to the Middle Plantation Club, Williamsburg, Va. on “ISIS and the Evolution of Terrorism.”
- CAPT John Maxwell and Associate Professor Bill Marlowe (JCWS) provided two presentations on JPME to the Senior Naval Reserve Officer Orientation Course (SNROOC) Leadership Executive Conference.
- JC2IOS participated in the Joint Concept for Operating in the Information Environment (JCOIE) Stakeholder's Workshop to inform the DoD Strategy for Operations in the Information Environment.
- Dr. Fred Kienle (JCWS) served as lead for a U.S. African Military Education Program (AMEP) for Ghana, which was sponsored by OSD and managed through the Africa Center WAD in support of the USAFRICOM theater campaign plan.
- Assistant Professor Greg McGuire supported the Joint Staff J7 as an observer for the Naval War College Distance Education Program PAJE at Newport, RI.
- Colonel Chris Rogers (JAWS) participated in the Johns Hopkins Applied Science Lab’s Seminar on Global Security Challenges and Opportunities.
- Dr. Bryon Greenwald (JAWS) was an invited guest speaker at the Western Hemisphere Institute for Security Cooperation (WHINSEC) at Fort Benning.
- Assistant Professors John Ruedisueli and Chuck Davis observed and promoted 2nd Marine Expeditionary Brigade’s Headquarters’ joint certification exercise.
- LtCol Demetry Spiropoulos assisted USTRANSCOM with developing a Joint Logistics Over-the-Shore Logistics (JLOTS) scenario based upon the JCWS exercise “Purple Lightning.” The exercise improved students’ abilities to apply Crisis Action Planning procedures with particular emphasis on interagency participation and cooperation to assist in the attainment of US strategic goals and interests in an evolving crisis.
- Col Tricia York, served on an Air Reserve Personnel Center board in Denver.
- COL William Wyman, Assistant Professor Greg McGuire, and Lt Col Chuck Pratt planned and executed a Mobile Training Team (MTT) joint planning seminar at Fort Devens, MA. The

MTT provided joint planning education to approximately 130 Reserve Component Army and Navy personnel assigned to the USEUCOM staff, and delivered multiple lessons on deliberate and crisis action planning.

- LTC Eric Roitsch deployed to Tobuk, Kingdom of Saudi Arabia in support of a Joint Special Operations University (JSOU) Countering Violent Extremism (CVE) course at the Royal Saudi Land Forces (RSLF) Special Forces and Airborne School. This was the second iteration of the course LTC Roitsch developed in 2014. This time the audience was a class of 15 students from Royal Saudi Land Forces, Royal Air Force, Royal Navy, and the Saudi Arabian National Guard. The CVE Course is a Combating Terrorism Fellowship Program (CTFP) conducted by JSOU at MacDill AFB's Pinewood Campus. The CVE provided an overview of the contemporary issues and topics that relate to the "whole of nations" approach to countering violent extremism. The course also provided an overview of the theories, programs, and controversies surrounding the public discussion of violent extremism.
- COL Chris Rogers and Dr. Gregory Miller (JAWS) participated in the Brookings Institution's "Beyond 2016: Security Challenges and Opportunities for the next Administration" seminar in Washington.
- Col. Doug Golden (JAWS) participated in the Old Dominion University's "Women, Peace, and Security" symposium.
- Dr. Bryon Greenwald, Dr. Greg Miller and Dr. Keith Dickson (JAWS) participated in the International Studies Association's 57th annual convention, in Atlanta. Dr. Miller chaired the "Teaching War and Peace to National Security Professional" roundtable, with Dr. Greenwald and Dr. Dickson participating. Dr. Miller also chaired the "Reputation and Credibility" panel and presented "Blurred Lines: The 'New' Transnational Terrorism" paper to the International Politics of Cyber Warfare panel.
- Dr. Robert Antis (JAWS) presented a workshop on institutional research and the use of student evaluations for the staff and leadership of the Georgian Non-Commissioned Officer Training Center in Kojori, Georgia.
- Dr. Sterling Pavelec (JAWS) supported a faculty development opportunity at the Air Command and Staff College by delivering a presentation on Gallipoli.
- Dr. Bryon Greenwald, Dr. Greg Miller and Dr. Sterling Pavelec (JAWS), along with three JAWS students, participated in the Society for Military History's symposium in Ottawa, Canada. Dr. Pavelec chaired the "Assessing Frightfulness: Testing an approach to Understanding Warfare" panel and served on the "History and Advanced Military Education in the American Armed Forces" roundtable. Dr. Greenwald chaired the "Non-Traditional Evaluations for Asian Security Concerns" panel, where three JAWS students presented their theses, and Dr. Miller participated as a commentator.
- COL Chris Rogers (JAWS) served as a mentor for the Joint Land Air Sea Strategic (JLASS) Special Program/Exercise wargame at Maxwell AFB.
- COL Chris Rogers (JAWS) participated in the Combined Senior Service College Curriculum Development Conference in Carlisle Barracks.
- Dr. Robert Antis (JAWS) participated in the Multinational Workshop on Building/Developing the NCO Corps for the 21st Century in Tbilisi, Georgia.

- Dr. Bryon Greenwald (JAWS) lectured on “Understanding Change” to Colegio del la Defensa Nacional and Centro de Estudios Superiores Navales, (Mexican Army and Navy War Colleges), at the Joint Forces Staff College.
- Dr. Greenwald also delivered the “The Past as Prologue: Understanding Trends and Anticipating the Future,” Capstone Course Lecture, to the Army’s Command and General Staff Officer Course (CGSOC), at the Western Hemisphere Institute for Security Cooperation at Fort Benning.
- JC2IOS hosted Col. Ben Leitzel (Ret) Senior Military Analyst at the Army War College/Center for Strategic Leadership to discuss nesting cyber education activities among JPME organizations.
- Dr. Bethany McCaffrey and Mr. Dwain Harrison of the Institutional Research, Assessment, and Accreditation Division (IRAAD), participated in the Association for Institutional Research (AIR) Annual Forum.
- Assistant Professor Greg McGuire judged the 2016 SECDEF/CJCS Essay Competitions at NDU in support of NDU’s Joint Force Quarterly (JFQ) magazine.
- LTC Tim Martin represented JC2IOS and JFSC at the Naval Postgraduate School to validate NPS’ awarding of JIOPC credit to graduates of their 10-month program, who also took the IO elective.
- LTC Juan Zapata and Associate Professor Tom Snukis (JCWS) conducted an "Introduction to Operational Design and JOPP" to members of the 694th Intelligence, Surveillance, and Reconnaissance Group staff.
- Dr. Dave DiOrio and Dr. Karl Erickson supported USCENTCOM's Theater Campaign Plan by participating in the only Mil-Mil program currently conducted between the US and Pakistan. The program involved a Senior Officer (grades O5-O8) seminar that exchanged information on current counterterrorism operations, US-Pakistan security issues, and combined planning issues, while encouraging the formation of relationships between seminar attendees to facilitate future US-Pakistan interactions.
- Lt Col Pratt represented the JCWS-H program at the Joint Faculty Education Conference, hosted by the Joint Staff J-7 to advance the AY18 CJCS Special Areas of Emphasis (SAEs).
- LtCol Douglas Luccio supported the Air Land and Sea Application Center Security Force Assistance Working Group as part of a Tactics, Techniques, and Procedures (TTP) publication review for Security Force Assistance training.
- JC2IOS hosted a visit from RDML Barrett, Deputy J3 for current operations at USCYBERCOM.
- Dr. Robert Antis (JAWS) represented JFSC at the 5th Functional Clearinghouse on Defense Education, sponsored by the Partnership for Peace Consortium in Varna, Bulgaria.
- Dr. Fred Kienle and Dr. Dave DiOrio (JCWS) co-delivered at the USTRANSCOM Component Commanders Command Arrangements Symposium.
- Dr. Bethany McCaffrey (IRAAD) delivered a presentation focused on program evaluation and its incorporation into existing curriculum development systems at the Joint Enlisted Curriculum Conference, conducted by the Joint Staff J7.
- CDR Phillip Gist presented an executive summary of joint logistics-related research papers from JCWS and JAWS students to the Joint Logistics JPME Faculty Development Conference, which was conducted by the Joint Staff J4 and Center for Joint and Strategic Logistics. CDR

Gist demonstrated instructional techniques related to conveying the importance of Operational Contracting Support to commanders and their staffs at the strategic and operational level.

- LTC Scott Weaver (JC2IOS) provided instruction in the Army IO Qualification Course.
- LTC Eric Roitsch participated in JSOU's "Special Operations Strategic Context Course" curriculum development workshop at MacDill AFB. The Special Operations Strategic Context Course analyzed the complex SOF operating environment from a strategic perspective.
- JC2IOS supported the Army War College/Center for Strategic Leadership with the development of the "Strategic Cyberspace Operations Guide."
- LTC Scott Weaver represented NDU and JC2IOS at the National Guard Homeland Security Institute's Homeland Protection Course at the Massachusetts Institute of Technology's Lincoln Lab.
- JC2IOS participated in monthly Joint Information Operations Proponent (JIOP) Force Development Working Groups to address Joint IO training and education requirements in development and support of the Joint Force KSAs, LoLAs, and the Chairman's Joint Training Guidance.
- JC2IOS participated in bi-weekly battle update briefings with the JS and other GCC J39s.
- COL Max Thibodeaux participated in two Marine Expeditionary Force annual exercises and advised the Marine Corps Information Operations Center on the development of new Marine IO force structure.
- The JC2IOS C4I Division worked with the Old Dominion University's Engineering Department on Cyber Education initiatives, including a summer camp for high school students.
- JC2IOS taught "Fundamentals of Unified Action for IO and Cyber Operations," "Information as an Element of National Power," and an Information Operations case study for JCWS and JAWS students.
- JC2IOS C4I established lines of inquiry and publication based on current issues in the cyber field by consulting with key stakeholders in DoD. Examples include Joint Information Environment (JIE) Implementation; Maintaining Communications Superiority via Space; C2 for JCCs; Knowledge Management Tool Proliferation; Thin Client and Zero Clients (Cloud Computing) Opportunities.
- Members of the JFSC Exercise Working Group participated with the Joint Staff J7 on various occasions in war gaming/Modeling and Simulation development.
- Dr. Keith Dickson (JAWS) participated in the Africa Military Education Program (AMEP) Ecole d'Etudes Militaire, Libreville, Gabon.

JFSC is a member of the Virginia Tidewater Consortium for Higher Education (VTC) consisting of 13 institutions of higher education located within the Tidewater region. VTC coordinates and facilitates higher education services in the area to provide maximum educational opportunities for the citizens of this region. The VTC also coordinates cooperative educational partnerships among its members. During this reporting period, 23 JFSC faculty members completed the VTC Certificate on College Teaching program. Also, 9 JFSC faculty members completed the Professional Certificate in Online Education Program through the University of Wisconsin.

Faculty Awards

Several JFSC faculty members received recognition for their outstanding work:

- Col. James Golden, LTC Edward Vedder, LTC Tim Martin, and LtCol Brian Cole earned the John A. Williamson, Sr. Recognition of Excellence Award.
- The Military Officers Association of America awarded its Joint Educator of the Year Award to Assistant Professor Charles Davis.
- Multiple faculty members earned Master Faculty recognition, including:
 - CDR Shellee Morris
 - Lt Col Jody Owens
 - Lt Col Adam Little
 - CDR Theodore Voltz
 - CDR Phillip Gist
 - Lt Col Kristi Church
 - CDR James Corlett
 - CDR Stephen Firestone
 - CDR Brian Goldschmidt
 - Associate Professor Richard Gribling
 - Assistant Professor Teresa Dicks
 - Assistant Professor Mary Bell
 - Assistant Professor Gregory McGuire

Table 19. JFSC Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	326	64	34	424
U.S. Air Force	347	39	28	414
U.S. Navy	219	43	0	262
U.S. Marine Corps	67	20	0	87
U.S. Coast Guard	--	--	--	3
International Officer	--	--	--	67
International Civilian	--	--	--	1
DOD Civilian	--	--	--	27
Interagency Civilian	--	--	--	3
Total Enrollment				1,288

Note: Active and Reserve components apply only to U.S. military services; thus numbers may not sum to total across Active/Reserve status. This table only includes students who completed at least one course as part of the JAWS, JCWS, JCWS-H, JC4ICSOC programs. Students for other, non-credit bearing courses/programs are in Table 20.

Table 20. JFSC Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service

	Agency	Enrollment
DoD Agencies	Defense Intelligence Agency	7
	Department of the Air Force	2
	Department of the Navy	3
	Joint Staff	8
	National Geospatial-Intelligence Agency	2
	United States Central Command	1
	United States Northern Command	3
	United States Transportation Command	1
	DoD Agency Total	27
Non-DoD Agencies	Department of State	2
	Office of Management and Budget	1
	Non-DoD Agency Total	3

Note: This data only includes only JAWS, JCWS, JCWS-H, and JC4ICSOC students.

Table 21. JFSC Student Educational Background

Student Category	Completed ILC**	Completed SLC**	Joint Exp.**	Operational Exp.**	Command O-5 Exp.**	Command O-6 Exp.**	Bachelor's Degree*	Master's Degree*	Doctoral/Professional Degree*	Other*	Total***
U.S. Army	300	72	199	310	92	44	58	331	13	2	424
U.S. Air Force	229	139	228	266	129	21	10	361	13	0	414
U.S. Navy	138	35	124	172	60	15	29	194	10	2	262
U.S. Marine Corps	63	10	40	67	22	2	30	44	5	1	87
U.S. Coast Guard	2	0	3	3	1	0	0	3	0	0	3
International Officer	--	--	--	--	--	--	13	26	1	1	67
International Civilian	--	--	--	--	--	--	0	1	0	0	1
DOD Civilian	--	--	--	--	--	--	3	18	2	3	27
Interagency Civilian	--	--	--	--	--	--	1	2	0	0	3
Total	732	256	594	818	304	82					1288

*Represents prior education earned upon admission to NDU program.

**U.S. Military students that are counted as having attended an ILC, SLC, Joint, or as having Operational, Command O-5, or Command O-6 Experiences upon admission to their NDU program. Professional military experiences/highest level of education are not mutually exclusive. Professional military experiences refer to ILC, SLC, Joint Experience, Operational Experience, Command O-5 experience, Command O-6 Experience.

***Unduplicated student enrollment number. This is not the sum across all columns.

Table 22. JFSC International Student Enrollment

Country	Student International Officer	Student International Civilian
AFGHANISTAN	1	0
BRAZIL	1	0
CANADA	1	0
CHILE	3	1
COLOMBIA	2	0
CONGO, REPUBLIC OF THE	1	0
CZECH REPUBLIC	1	0
DENMARK	1	0
EGYPT	2	0
FINLAND	1	0
GERMANY	3	0
HONDURAS	1	0
ITALY	1	0
JAPAN	3	0
KOREA, SOUTH	14	0
LEBANON	5	0
MOROCCO	1	0
NEW ZEALAND	1	0
SAUDI ARABIA	8	0
SEYCHELLES	1	0
SLOVENIA	1	0
TURKEY	9	0
UNITED KINGDOM	3	0
YEMEN	2	0
Total	67	1

Note: this data only includes only JAWS, JCWS, JCWS-H, and JC4ICSOC students.

Table 23. JFSC Noncredit/Program Course Enrollment

Course/Program	Total Enrollment
Defense Operations Security Planning Course (DOPC)	23
Joint Military Deception Training Course (JMTC)	37
Joint Information Operations Planners' Course (JIOPC)	64
Joint Information Planner's Course (JIPC)	24
Total Enrollment	148

Note: courses in this table do not award academic credit.

Table 24. JFSC Faculty Educational Background

Faculty Category	Bachelor's Degree*	Master's Degree*	Doctoral/Professional Degree*	JQO	SLC Graduate	Total**
U.S. Army	1	17	0	11	4	18
U.S. Air Force	0	15	0	15	16	17
U.S. Navy	3	18	0	13	1	21
U.S. Marine Corps	2	4	0	5	3	6
U.S. Coast Guard	0	0	0	0	0	0
International Officer	0	0	0	0	0	0
International Civilian	0	0	0	0	0	0
DoD Civilian (Title 5)	0	2	0	2	2	2
DoD Civilian (Title 10) ***	0	14	14	21	10	28
Contractor	0	0	0	0	0	0
Interagency Civilians	0	2	0	2	1	2
Total	6	72	16	69	37	94

Note: JQO refers to Joint Qualified Officer and SLC refers to Senior Level College.

* This is an unduplicated count that represents faculty highest degree earned.

** Total Unduplicated count of faculty category.

***Some DoD Civilian have prior U.S. Military experience.

National War College

The National War College (NWC), led by its Commandant, Brigadier General Darren E. Hartford (USAF), continued to fulfill what has been its CJCS-directed mission since 1990 to “educate future leaders of the Armed Forces, Department of State, and other civilian agencies for high-level policy, command, and staff responsibilities by conducting a senior-level course of study in national security strategy.”

The college continued refining its academic program in response to ongoing student and faculty assessment of the major restructuring of the curriculum the college undertook as part of the University’s Joint Educational Transformation. That restructuring organized the curriculum into three phases:

- 1) The first phase comprised the *Strategic Leader Foundations Course (SLFC)*, which covered the statutory JPME Phase II requirements stipulated in Title 10 of the United States Code, Chapter 107; the Desired Leader Attributes promulgated by the CJCS; and lessons from the Decade of War.
- 2) The second phase comprised the college’s traditional core curriculum. Building on the foundational course, the core examined the utility of the four major instruments of national power, analyzed the factors and dynamics shaping both the international and domestic environments within which national leaders have to develop security strategies, and engaged students in a national security strategy practicum that challenged them to develop a whole-of-government strategy for a national security problem centered in a particular region of the world. To improve the quality of their analyses, as well as to make their strategies more realistic and relevant, students spent a week in the region conducting a first-hand assessment of their chosen problem.
- 3) Finally, in the capstone phase of the curriculum, students prepared a 20-25 page strategy paper detailing the strategy developed during their practicums, and then orally presented and defended that paper to a two-person faculty team.

Additionally, the college undertook a year-long effort to rigorously think through its understanding of the instruments of national power, with an eye toward reshaping its core instruction on how to use each of the instruments – individually and in conjunction with each other – to produce desired strategic effects. That effort produced a new strategy model that has been favorably received, and will underpin the design of two new courses on the instruments of power that the college will introduce in AY18. In a parallel effort, the college also agreed to serve as lead author for a first ever, top-level joint doctrine publication on strategy. The initial draft of that document has been circulated, and the college is revising the draft in response to comments received.

Without question, the strength of the college remained its faculty. On the practitioner side, the military services and civilian agencies continued fulfilling their commitments to provide top-quality senior professionals to fill 39 of the college’s 60 faculty positions, replacing the 12 military and 6 agency faculty who were rotating out after 2-3 year tours of service. On the civilian academic side, the college successfully recruited and hired an outstanding civilian academic to replace the one (out of 21 total) who had retired. Those hires enabled the College to continue meeting its OPMEP-mandated student-to-faculty ratio of 3.5:1.

In addition to providing high-quality instruction, NWC faculty engaged in a robust program of research, publication, and outreach. Of particular note were the three faculty who took full-year sabbaticals, during which they focused on significant research projects:

- Dr. David Auerswald researched Arctic security challenges and the strategic positions of the various “Arctic nations” with respect to those challenges and other Arctic security issues.
- Dr. Mark Clodfelter examined the theory and practice of air power as an instrument of national security strategy.
- Dr. Cynthia Watson produced a manuscript assessing alternative approaches the US could take to exploit and orchestrate the non-military instruments of national power in the “rebalance” to Asia.

Table 25. NWC Overall Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	38	2	3	43
U.S. Air Force	38	1	2	41
U.S. Navy	21	0	0	21
U.S. Marine Corps	14	0	0	14
U.S. Coast Guard	2	0	0	2
International Officers	--	--	--	32
International Civilians	--	--	--	0
DoD Civilians	--	--	--	19
Interagency Civilians	--	--	--	36
Industry Civilians	--	--	--	0
Total Enrollment				208

Note: Active and Reserve components apply only to U.S. military services; thus numbers may not sum to total across Active/Reserve status.

Table 26. NWC Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service

	Agency	Enrollment
DoD Agencies	Defense Intelligence Agency	2
	Department of Defense	1
	Department of the Army	1
	Department of the Navy	1
	Joint Staff	1
	Joint Staff-J5	1
	Joint Staff-J7	1
	Joint Staff-J8	2
	National Geospatial-Intelligence Agency	2
	National Security Agency/Central Security Agency	3
	Office of the Director of National Intelligence	1
	Office of the Under Secretary of Defense for Policy	3
	DoD Agencies Total	19
Non-DoD Agencies	Central Intelligence Agency	2
	Department of Homeland Security	2
	DHS-Custom and Border Patrol	2
	Department of State	19
	Department of State-Bureau of Diplomatic Security	2
	Department of Treasury	2
	Federal Bureau of Investigation	1
	US Secret Service	1
	United States Agency for International Development	5
		Non-DoD Agencies Total

Table 27. NWC Student Educational Background

Student Category	Comp. ILC **	Comp. SLC **	Joint Exp. **	Operational Exp. **	Command O-5 Exp. **	Command O-6 Exp. **	Bachelor's Degree *	Master's Degree *	Doctoral/ Professional Degree *	Other *	Total ***
U.S. Army	42	0	20	43	32	0	3	36	4	0	43
U.S. Air Force	24	17	5	41	39	2	0	38	3	0	41
U.S. Navy	17	1	3	21	9	1	7	14	0	0	21
U.S. Marine Corps	13	0	4	14	13	0	4	10	0	0	14
U.S. Coast Guard	2	0	0	2	2	0	0	2	0	0	2
International Officers	--	--	--	--	--	--	8	20	3	1	32
International Civilians	--	--	--	--	--	--	0	0	0	0	0
DoD Civilians	--	--	--	--	--	--	3	14	2	0	19
Interagency Civilians	--	--	--	--	--	--	16	18	2	0	36
Industry Civilians	--	--	--	--	--	--	0	0	0	0	0
Total	98	18	32	121	95	3					208

*Represents prior education earned upon admission to NDU program.

**U.S. Military students that are counted as having attended an ILC, SLC, Joint, or as having Operational, Command O-5, or Command O-6 experiences upon admission to their NDU program. Professional military experiences/highest level of education are not mutually exclusive. Professional military experiences refer to ILC, SLC, Joint Experience, Operational Experience, Command O-5 experience, Command O-6 Experience.

***Unduplicated student enrollment number. This is not the sum across all columns.

Table 28. NWC International Student Enrollment

Country	Student International Officer
AFGHANISTAN	1
BANGLADESH	1
BULGARIA	1
CANADA	1
COLOMBIA	1
CROATIA	1
ETHIOPIA	1
FINLAND	1
FRANCE	1
GERMANY	1
GREECE	2
INDIA	1
INDONESIA	1
ITALY	1
JAPAN	1
KOREA, SOUTH	1
LEBANON	1
MEXICO	1
NEPAL	1
NORWAY	1
PAKISTAN	1
PERU	1
ROMANIA	1
SAUDI ARABIA	1
SENEGAL	1
SWITZERLAND	1
TAIWAN	1
TUNISIA	1
TURKEY	1
UNITED KINGDOM	1
VIETNAM	1
Total	32

Table 29. NWC Faculty Educational Background

Student Category	Bachelor's Degree*	Master's Degree*	Doctoral/Professional Degree*	JQO	SLC Graduate	Total**
U.S. Army	0	9	1	9	1	10
U.S. Air Force	0	5	3	7	1	8
U.S. Navy	0	4	0	4	0	4
U.S. Marine Corps	0	2	0	2	0	2
U.S. Coast Guard	0	0	0	0	0	0
International Officer	0	0	0	0	0	0
International Civilian	0	0	0	0	0	0
DoD Civilian (Title 5)	0	0	0	0	0	0
DoD Civilian (Title 10)	0	3	21	6	2	24
Interagency Civilians	0	7	4	0	1	11
Contractor	0	0	0	0	0	0
Total	0	30	29	28	5	59

Note: JQO refers to Joint Qualified Officer and SLC refers to Senior Level College.

* This is an unduplicated count that represents faculty highest degree earned.

** Total Unduplicated count of faculty category.

The International Student Management Office (ISMO)

International Academic Activities

The International Student Management Office (ISMO) had another productive and eventful year, hosting more than 200 International Fellows from more than 70 countries. As in previous years, International Fellows were fully engaged across campus, immersed in their academic programs, and involved with special events, guest lectures, international delegations, intramural sports, and family programs. ISMO staff provided ongoing support for housing, dependent school enrollment, banking, and healthcare, all of which facilitated the Fellows' successful transition to the US.

This academic year, ISMO continued to integrate classroom instruction with field practicums in the American Studies program, in order to expose Fellows to the diversity of American society, institutions, and values. For example, Fellows learned about the US education system through visits to public and private schools, and universities. They learned about the judicial system through visits with court officers, law enforcement agencies, and to correctional facilities. They learned about the healthcare system through visits to hospitals and other healthcare providers. Additionally, they studied human rights in America, including civil rights, Native American rights, ethnic and gender diversity, poverty, and immigration. Destinations included an unincorporated township in Montana, a homestay in rural Tennessee, the United Nations in New York, Facebook headquarters in San Francisco, and the Islamic Center in Michigan. Fellows also visited New Orleans, which offered a unique case study on the roles of government agencies and non-government organizations coordinating responses to natural disasters.

International Engagement Activities

ISMO coordinated a total of 42 official visiting delegations this year, which allowed the university to highlight its strategic location and promote its role as the world's leading Joint Professional Military Education (JPME) institution. The purpose of these visits, which were often led by military officers or civilians at the General Officer/Flag Officer rank, was to assist allied nations in the development of their own JPME programs, negotiate potential collaboration with peer institutions, and/or provide a forum for senior leaders of partner nations to give a public address.

ISMO also hosted several Distinguished Visitor Orientation Tours (DVOTs). These short-term, custom-made training programs familiarized international military officers and civilians with different types of US security cooperation programs, helped align the military systems of partner nations more closely with the US, and enhanced relations with countries transitioning to democracy. This academic year, for example, ISMO conducted DVOTs for Indonesian Army leaders, Indonesian Navy leaders, and the Mongolian Deputy Chief of Defense. Destinations

included a variety of military installations, professional military education institutions, training facilities, and government agencies relevant to the strategic interests of participant countries.

Finally, ISMO continued its tradition of honoring international alumni who have risen to positions of prominence by inducting two graduates into the NDU International Hall of Fame, one at Fort McNair and another at the Joint Forces Staff College. Given the fundamental imperative of the alumni program — to facilitate joint security cooperation — these events were effective and provided a great source of pride for everyone who contributed to NDU's international mission.

Institute for National Strategic Studies (INSS)

The Institute for National Strategic Studies (INSS) was established in 1984 by the Secretary of Defense as a focal point for analysis of critical national security policy and defense strategy issues. The INSS mission is to conduct research in support of the academic and leader development programs at NDU; to provide strategic support to the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, the Services and Combatant Commands; and to engage with the broader national security community in the service of the common defense. The Institute oversees and coordinates the activities of NDU research centers and the university's academic press.

INSS continued to seek out opportunities to further integrate the research team into the JPME teaching environment. INSS researchers taught core and elective courses at the National War College, Eisenhower School, and the Joint Forces Staff College, in addition to providing subject matter expert lectures in all NDU colleges. INSS further contributed by providing scholarly material in support of core courses. For example, advance chapters of "Lessons Encountered: Learning from the Long War" were provided to support core courses at both the National War College and the Eisenhower school, as well as other PME institutions. INSS experts also lectured on "Lessons Encountered" to the student bodies of the National War College, Eisenhower School, and Army War College, as well as the CAPSTONE and Pinnacle programs.

INSS coordinates research activities to support senior leader research priorities and outreach objectives. During this academic year, INSS:

- Conducted briefings and roundtable discussions for numerous senior civilian and military leaders, including the Chairman and Vice Chairman of the Joint Chiefs of Staff, Combatant Commanders, and Service Chiefs.
- Participated in several national-level Tabletop Exercises and Red Teams to inform national security and defense policy leadership.
- Organized and hosted regular, high-level symposia for civilian and military officials and students on topical issues, such as Russia, Iraq, Syria, North Korea and ISIL; these and other events drew upon experts from across the INSS domain and frequently included faculty from NDU's colleges.

Center for Complex Operations (CCO)

Established in 2009, the Center for Complex Operations' (CCO) mission is to foster unity of effort among DoD and civilian interagency personnel in complex operations, to collect and analyze lessons from military and civilian personnel, to improve understanding of complex national security challenges, and to incorporate those lessons and improved understanding into policy, doctrine, education, training, and exercises. This year CCO conducted a broad range of research and support activities on behalf of OSD, the Joint Staff, the Combatant Commands, Department of State, and the intelligence community. Examples include data analysis and other research support on foreign fighter flows and other transregional threats; analysis of the November 2015 Paris attacks for the National Counter Terrorism Center (NCTC); analysis of ISIL recruitment and recidivism for CENTCOM and DHS; and, in collaboration with CSR, support to the CJCS on anti-ISIL strategy in Syria and Iraq. Also, during this academic year, the CCO director taught at the National War College and guest lectured at the Eisenhower School.

CCO was the lead research center for INSS's first-priority book project: *"Lessons Encountered: Learning from the Long War."* This project was inspired by two CJCS questions and funded by a grant from the Joint Staff (J7). This publication is now in its distribution phase and many extracts have been used in the current curriculum. CCO continues to play a leading role in the examination and analysis of the nature and interactions of networked asymmetrical adversaries - or illicit global networks. Major book publications on these subjects include: "Impunity: Countering Illicit Power in War and Transition," and the recently published "Beyond Convergence: World without Order." CCO developed a suite of instruction courseware based on "Impunity: Countering Illicit Power in War and Transition," which it has tested in several professional military and related institutions with very encouraging preliminary results.

Completing its sixth year of publication, CCO's journal, PRISM, serves as a keystone forum for sharing new concepts and lessons across the community of interest, encompassing current and emergent conflict, civil-military engagement in stabilization and reconstruction, and irregular warfare operations. Several supplemental issues were published focused on "women, peace, and inclusive security," and "special operations in a chaotic world."

Key CCO collaborations with OSD-Policy included the continuation of a project that studies the challenges inherent in Defense Institution Building, and a second project that explores how illicit networks, including terrorists, insurgents, and transnational criminal organizations pose an existential threat to many states in Latin America and the global rules-based system. CCO provided substantive support to the OSD's biennial assessment of DoD support to stability operations; and to a strategic review of the U.S. government's response to terrorism since the attack on September 11, 2001.

CCO continues to support multiple Joint Staff functional activities. It supports the Joint Lessons Learned Program by posting and disseminating interagency lessons learned and best practices on the Joint Lessons Learned Information System, and has been the co-lead author or technical advisor on several joint doctrine publications, including those for stability operations and

interorganizational cooperation. CCO is a supporter of the annual 'Interorganizational Tabletop Exercise' sponsored by the Joint Staff (J7 - Chairman's Exercise Program Division) at the United States Institute of Peace, for which this year's theme was 'countering violent extremism.' CCO also made important contributions to the recently published Joint Concept for Human Aspects of Military Operations, and is currently working on the draft Joint Concept for Integrated Campaigning.

CCO extended its virtual reach as demonstrated by 232,000 visits and 693,000 page views to its website (cco.ndu.edu). PRISM alone accounted for 87,000 views and 55,000 article downloads. Books and other scholarly articles accounted for an additional 19,000 downloads. CCO's Facebook page remains a vital method for outreach to our research community. Articles posted to Facebook are mutually supported by simultaneous postings on Twitter. In direct support of J7's Lessons Learned Program, over 60 documents were uploaded to the Joint Lessons Learned Information System for access by interested researchers.

Of special note, CCO remains deeply involved in the analysis of intelligence tradecraft associated with sociocultural analysis; with research intended to enhance understanding of interorganizational considerations for various operational environments; and with U.S. strategic decision-making prior to and during the conduct of complex operations.

Center for Strategic Research (CSR)

CSR's mission is to provide subject matter expertise on strategic and regional issues for the Secretary of Defense and Chairman of the Joint Chiefs of Staff, and to directly support JPME. CSR's 12-person research team accomplishes these tasks through both directed and independent research; both are critical elements of a rapid, world-class strategic analysis capability.

In 2016 the CSR team provided meaningful direct support to senior defense leadership. Some examples include:

- *Countering ISIL in Iraq and globally.* Support for Joint Staff (J5) culminated in a discussion with the CJCS on ways to readjust US anti-ISIL strategy in Iraq. Researchers also briefed findings to senior NSC and Department of State officials focused on countering ISIL regionally and globally.
- *Post-ISIL Syria.* As a member of a SOCCENT senior advisory group on ISIL in Iraq and Syria, a CSR researcher advised the Special Operations Command CENTRAL and the Joint Staff on the results of an exercise on potential scenarios of post-ISIL Iraq and Syria.
- *Current political dynamics in Iraq and the Kurdistan region.* Also included Kurdistan regional government relations with Baghdad and potential scenarios for stabilizing ISIL-free territories in northern Iraq. Final results were briefed to the U.S. Ambassador to Iraq and the U.S. Consul General in Erbil.

- *U.S. strategy and force posture in Afghanistan.* This work was animated by the 2014-2015 return of insurgents to Afghanistan and identified the consequences of a planned US military drawdown by early 2016. The researcher's assessment to senior NSC, OSD, and military officials directly influenced the decision to delay/halt the planned drawdown.
- *Israeli-Palestinian conflict resolution.* This research was motivated by Israel and Palestine's need for resolution and the likelihood that Islamist extremists use the conflict as a recruiting tool. The CSR researcher provided insights and recommendations to many senior US government officials, senior Israeli officials, and Palestinian leaders.
- *Defense policy and strategy.* CSR researchers were asked to support CJCS/Special Assistant and J5 on their development of the national military strategy, meet with the Deputy Secretary to discuss the Offset Strategy and innovation, and engage with SOUTHCOM on behalf of CJCS to discuss security cooperation/partnership capacity building. In two instances researchers were asked to testify before Congress.
- *Raising and mentoring security forces.* This work was included in the Chief of Staff of the Army's Lessons Learned publication for Afghanistan, and will be used as a reference for future generations of soldiers faced with similar challenges.
- *Challenges to U.S. diplomacy from a North Korean regime collapse.* This ongoing research supports decision-making on this topic, both within the US government (NSC, DoD, and DoS) and for the Korean Ministry of Defense.

CSR uses independent research to develop expertise in areas where they anticipate leaders' future needs. In each of the above cases, CSR researchers were able to provide meaningful and quick responses precisely because they had already developed a deep understanding of these topics. Other areas where our researchers are leaning forward and providing meaningful contributions include:

- The effect of a 4th Industrial Revolution on future conflict.
- US strategy and policy regarding Russia.
- US strategy and policy throughout Asia – special topics include the return of foreign fighters to Central Asia, dynamics in the South China Sea, and India-Japan strategic engagement and implications for US rebalance to the Asia-Pacific region.
- National security policy reform including empirical research on improving interagency collaboration.

Overall, the CSR research effort produced 69 publications (approximately 386,000 words). This work was published by NDU Press and through prestigious journals and institutions like Orbis, Stanford University Press, The Washington Quarterly, The Woodrow Wilson Center, The Hudson Institute, and Foreign Affairs.

Finally, the CSR research team remains actively devoted to teaching whenever possible. Several researchers found opportunities to teach four NDU courses last year and guest lecture in many others. Additionally, researchers taught outside PME courses at the Near East and South Asia

Center, the Reserve Component National Security Course, and The College of William and Mary's Washington DC Summer Programs. CSR researchers also executed significant engagement activities by giving presentations to NATO Parliamentarians, sister schools including the PLA Defense University, NATO Defense College, and foreign delegations.

Center for the Study of Chinese Military Affairs (CSCMA)

As part of its Congressional mandate to “study and inform policymakers in the Department of Defense, Congress, and throughout the Government regarding the national goals and strategic posture of the People's Republic of China and the ability of that nation to develop, field, and deploy an effective military instrument in support of its national strategic goals,” the Center for the Study of Chinese Military Affairs conducted an active program of research, outreach, and support for policymakers and joint education.

China Center staff supported the NDU educational mission by lecturing in NDU courses or supervising student theses from all five of the NDU colleges, facilitating NDU student travel to China and Asia, and providing advice and support for NDU students conducting research on China. The “PACOM Scholars” program founded by CSCMA Director Dr. Phil Saunders was expanded to become an NDU-wide program including all five of the NDU colleges and four additional Combatant Commands. This work demonstrates the synergy between CSCMA research, policy support, and outreach activities and its contributions to NDU's JPME mission.

CSCMA published two major books during the reporting period:

- *“PLA Influence on China's National Security Policymaking,”* published by Stanford University Press, analyzes how the Chinese military influences policy. This book is a major contribution to the field of China studies, has received positive reviews, and is already widely cited in the literature and used in JPME courses.
- *“The People's Liberation Army and Contingency Planning in China,”* published by NDU Press, examines how the Chinese military plans for contingencies and its potential role in a range of domestic, border, and maritime contingencies.

China announced a major military restructuring on January 1, 2016, which became a major focus of CSCMA research. The China Center staff produced four internal papers analyzing different aspects of the reforms and published an INSS Strategic Forum, a Joint Force Quarterly article, and various shorter articles on the reforms. CSCMA research was briefed widely within the US government (including at OSD, the Joint Staff, Pacific Command, Pacific Fleet, and Pacific Air Force headquarters, and various intelligence agencies). CSCMA is continuing its research on the reforms, including via a special section of Joint Force Quarterly, a research monograph, and a major conference that will produce an edited book. Other research highlights during the period included publications on China's role in the international system, the future of the US-ROK alliance in a post-unification Korea, the role of island chains in China's maritime strategy, and China's relations with a post-sanctions Iran.

CSCMA continued to work with various US government, FFRDC, and international partners to expand its impact in a cost-effective manner. Its ongoing collaboration with DIA led to a co-sponsored symposium and report titled "North Korea 2025: Alternate Futures and Policy Challenges." CSCMA co-sponsored a roundtable on the Chinese defense white paper with CNA's China Studies program and a major conference on the People's Liberation Army (PLA) with Taiwan's Council for Advanced Policy Studies and the RAND Corporation. Dr. Saunders also participated in a CSIS delegation that visited Taiwan and China in March for meetings with the incoming Tsai administration and senior officials and scholars on both sides. The delegation's findings predicting a downturn in cross-strait relations were briefed to senior NSC, OSD, and State Department officials. The China Center also conducted a strategic dialogue with PLA NDU, participated in annual dialogues with Japanese and Korean counterparts, and supported senior US military officers visiting Asia.

Center for the Study of Weapons of Mass Destruction (CSWMD)

The Center for the Study of Weapons of Mass Destruction (CSWMD) was originally established in 1994 as the Center for Counterproliferation Research to prepare the joint warfighter to address the challenges posed by weapons of mass destruction (WMD) through education and leader development, scholarship and direct support, and outreach activities. It later expanded engagement to the full range of WMD matters and interagency organizations, including for nonproliferation and homeland security, and adopted its current name in 2004. In 2008, the CJCS designated CSWMD as the focal point for WMD education in JPME.

CSWMD had a productive year:

- Faculty were engaged in more than 11,200 contact hours with students in JPME and leader development settings, a new high for the center.
- Center faculty again taught three elective courses at NDU's North Campus.
- Faculty lectured and led tabletop exercises in other courses at NDU and across the Professional Military Education (PME) system.
- 14 NDU students earned the Weapons of Mass Destruction Studies Concentration.
- The Program for Emerging Leaders inaugurated its 9th class with 26 members from across DoD and the interagency community.
- The Countering WMD Graduate Fellowship program matriculated its 4th cohort of 23 DoD professionals.
- The Center held 6 WMD Spotlight seminars and conducted its 15th annual symposium, examining WMD challenges for the next administration.
- It collaborated with CAPSTONE, National War College, and Joint Forces Staff College to enhance strategic deterrence education pursuant to a PME Special Area of Emphasis.
- The center initiated and managed the US Strategic Command Scholars Program at NDU.
- It conducted an annual WMD Education Workshop with Consortium members at NDU.

- The DoD WMD Education Consortium, established by CSWMD as an informal advisory body in 2008, was formalized by the JROC.

CSWMD faculty undertook major projects in direct support of sponsors and stakeholders, and published results of their research. These initiatives included:

- Organizing a seminar on deterrence capabilities and education, keynoted by the Commander, US Strategic Command.
- Developing and facilitating two senior leader tabletop exercises for US Strategic Command's semi-annual Countering WMD Global Synchronization Conferences, featuring participation by several combatant command commanders.
- Developing and facilitating senior-level tabletop exercises exploring deterrence and escalation management challenges in regional conflicts with nuclear-armed adversaries for OSD, Joint Staff, Air Force, and the US-Republic of Korea Deterrence Strategy Committee.
- Conducting two workshops on understanding and countering Russia's strategy for regional coercion and war, informing DoD and NSC development of strategy for Russia.
- Contributing to the NATO Committee on Proliferation (Defence Format)'s examination of a new WMD operational concept and distillation of lessons learned from recent CBRN events.
- Organizing and leading a workshop on the security implications of emerging biotechnologies that informed NSC and OSTP recommendations to Deputies.
- Serving on a task force for the Defense Science Board and on advisory panels for US Strategic Command and Pacific Northwest National Laboratory.
- Publishing 10 papers on a range of WMD topics.

Center for Technology and National Security Policy (CTNSP)

The Center for Technology and National Security Policy (CTNSP) applies research and analysis to emerging technology opportunities and threats that impact national security. CTNSP is structured to build specialist project teams, as required and funded, to deliver targeted products in support of DoD decision-makers, and to make a direct contribution to JPME that supports DoD in building an enduring culture of innovation.

CTNSP contributed to JPME by teaching several NDU courses and providing knowledge derived from research activities. Resident subject matter experts updated and delivered courses on "Science and Technology for National Security," and "Legal, Policy & Ethical Issues" involved in using social media as a source of information for DoD operations. The center team also delivered courses including:

- Adaptive-Agile Leader Network (AALN) via the Eisenhower School and UC Berkeley.
- Prototyping and Experimentation to Improve Acquisition (PEIA) to assist Deputy Assistant Secretary of Defense for Emerging Capability and Prototyping (DASD [EC&P]) efforts to evolve DoD into a more agile technology development organization.

- National Security Technology Accelerator (NSTA) piloted Hacking For Defense, a university-based course connecting student teams to defense needs by working directly with participating DoD agencies using the Lean Launchpad methodology.

CTNSP continued building the NSTA program, an OSD-sponsored initiative to promote innovation and entrepreneurship through skills-based training, professional military education, and services. During the year, the program developed three portfolios:

- The Education portfolio includes activities, such as a multi-university graduate school course called Hacking For Defense (H4D), as well as contributions to JPME through AALN and various NSTA Boot Camps.
- The Collaboration portfolio includes a website to facilitate innovation via networking and resource access, and quarterly hackathons that bring together innovators to solve DoD challenges.
- The Acceleration portfolio includes creation of the NSTA Labs, a prototyping and experimentation center at the University of Southern Mississippi, and the NSTA Fulcrum program, which connects startups with relevant DoD lab infrastructure.

S&T research projects this year delivered expert advice to the Office of the Under Secretary of Defense for Policy, Office of the Assistant Secretary of Defense for Research and Engineering, Office of Naval Research, multiple Combatant Commands, and other agencies. Examples of this support include:

- A study for OSD Policy that addressed how DoD moves corrosion management technology from the laboratory to the field.
- A study to help NASA understand the human factors that account for individual differences in adaptability to extreme environments, such as in long-duration space missions.
- Research to help Assistant Secretary of Defense (Research & Engineering) select and evaluate DoD technologies for contribution to UN Peacekeeping Operations (PKO).
- Research for the Army Strategic Studies Group to select and implement a knowledge management system for analysis of emerging technology-related threats and opportunities.
- Research for the Defense Innovation Unit Experimental (DIUx) on emerging trends and opportunities for DoD to tap into global commercial technology and engineering insights to support Defense capability needs.
- Leadership of a multi-organizational research effort for Air University's Ultra Low Cost Access to Space (ULCATS) program.
- Development of a roadmap for a Directed Energy Weapon (DEW) science and technology program within the Department of Navy.
- Analytical studies for ONR, such as "Cyber-Resilience, Cyber-Behavior and the New Information Environment: Implications for Defense Strategies" and "Technology, Migration and National Security."

CTNSP experts also produced 10 scholarly publications, including:

- Technology studies, such as "*Detangling the Web: A Screenshot of US Government Cyber Activity*," and multiple papers on the human impact of deploying to austere locations, including space travel.

- Regional and strategic assessments, such as “*The Surges in Iraq and Afghanistan*”, and “*Critical Infrastructure for Ocean Research and Societal Needs in 2030*.”

INSS has successfully restructured CTNSP as a flexible team of qualified Subject Matter Experts (SMEs), in parallel with development of new funding streams. The Center is more cost-effective in responding to a greater variety of taskings from a broader range of sponsors focused on the impact of technology on national security policy.

NDU Press

NDU Press, an integral part of INSS, continued to adapt its product line to better support the university’s missions of teaching, scholarship, and engagement. This year, the Press published four issues of the Chairman’s flagship journal, *Joint Force Quarterly*. The Press also continued its support of the Joint Electronic Library, as all of the journal’s content is resident in the library’s data storage for instant access by personnel worldwide.

NDU Press remains committed to serving JPME and providing an intellectual platform for joint matters. JPME school participation in the Secretary of Defense and CJCS essay competitions increased again this year.

In addition to publishing two case studies, nine policy briefs, and two occasional papers, the NDU Press published two books during the reporting period:

- *Lessons Encountered: Learning from the Long War* assessed the campaigns in Iraq and Afghanistan and was provided to all PME institutions, as well as every active duty flag and general officer. *Lessons Encountered* has emerged as the most successful and widely read NDU publication ever.
- *The People’s Liberation Army and Contingency Planning* brings together leading experts from the United States and Taiwan to examine how the PLA prepares for a range of domestic, border, and maritime contingencies.

All publications are available at the NDU Press Web site in PDF, HTML, and/or multiple e-book formats. The Press is at the forefront of NDU’s online outreach. Its website attracted 301,823 visitors this year, with visitors viewing 1,445,462 pages of defense and security-related content. NDU Press is also active in the social media realm, with 3,816 followers on Twitter and 4,858 “likes” on Facebook.

Flag Officer and Senior Enlisted Education

CAPSTONE

The CAPSTONE course provides unique executive education for newly-appointed flag officers and senior civilian national security leaders. A total of 201 uniformed officers and senior civilians were given a robust exposure to the joint force and military services, combatant commanders, and senior leaders in the broader US government interagency community. Created to give new flag officers an enhanced understanding of service capabilities in combined military operations, CAPSTONE has evolved to include an appreciation for “whole-of-government” approaches to complex national and international challenges, and the interagency process that pursues such solutions. CAPSTONE receives outstanding access and support from the military services, the unified commanders and the intelligence community.

The CAPSTONE overseas field study program provides an opportunity to interact with interagency country teams and exposure to the regions of potential future engagement or conflict. This also allows combatant commanders and chiefs of mission to leverage CAPSTONE delegation visits to enhance engagement programs.

Additionally, 113 spouses of Capstone Fellows attended the week-long Executive Spouse Development Program this academic year. Curriculum included briefings on current regional issues, media relations, a panel discussion with senior service spouses, a dialogue with the spouse of the Chairman of the Joint Chiefs of Staff, ethics training, and a professional biography counseling session.

In August, Capstone successfully completed a Process for Accreditation of Joint Education (PAJE) and was certified as Phase Three, Joint Professional Military Education (JPME) through 31 May 2021.

PINNACLE

The week-long PINNACLE course is for select two- and three-star officers who are most likely to be called upon to command a joint force in a military or humanitarian assistance/disaster relief contingency. Attendees come from all five military services, the Defense Department, the CIA, and the State Department. To enrich the exploration of global and transnational issues, senior military officers from partner nations are also invited to participate in the course. PINNACLE graduated 27 Fellows in AY16.

KEYSTONE

The two-week KEYSTONE course provided 93 Command Senior Enlisted Leaders, who will be assigned to joint billets, with an enhanced understanding of the joint military environment, the defense establishment, and the broader US interagency. The Joint Staff-run Joint Operations Module, along with visits to several unified commands and selected Joint Task Forces, provide relevant information on joint operations.

Attendance is based upon a prioritized listing of the joint and service senior billets most likely to benefit from KEYSTONE attendance. Two KEYSTONE courses each year provide this executive education to Senior Enlisted Leaders from all five military services, their reserve components, the National Guard, and selected interagency personnel.

Faculty Publications

Conducting research to create and disseminate knowledge and insight on security related topics enhances the university's education mission. It also strengthens the defense community and its ability to anticipate, understand, prepare for, and respond to security threats across the spectrum and around the world. In addition to research efforts, publications, and presentations mentioned in the preceding sections, the NDU team added to the quality and robustness of the educational experience for all of the university's students, shed light on key strategic issues, and enhanced strategic relationships via the following publications in this bibliography.

Note: Please see the INSS section earlier in this report for more information on NDU's *Joint Force Quarterly* and *PRISM* professional journals, as well as the following books produced by NDU faculty:

- ***Lessons Encountered: Learning from the Long War*** assessed the campaigns in Iraq and Afghanistan and was provided to all PME institutions, as well as every active duty flag and general officer. *Lessons Encountered* has emerged as the most successful and widely read NDU publication ever.
- ***The People's Liberation Army and Contingency Planning*** brings together leading experts from the United States and Taiwan to examine how the PLA prepares for a range of domestic, border, and maritime contingencies.
- ***PLA Influence on China's National Security Policymaking*** analyzes how the Chinese military influences policy. This book is a major contribution to the field of China studies, has received positive reviews, and is widely cited in the literature and used in JPME courses.

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