

National Defense University

Annual Report for Academic Year 2014-2015

(July 1, 2014 - June 30, 2015)

Contents

11	NTRODUCTION	p. 5
N	IDU BY THE NUMBERS	p. 6
E	DUCATION, RESEARCH, OUTREACH, AND PARTNERSHIP	p. 9
	College of International Security Affairs (CISA)	p. 9
	Eisenhower School (ES)	p. 15
	Information Resources Management College (IRMC / iCollege)	p. 25
	Joint Forces Staff College (JFSC)	p. 31
	National War College (NWC)	p. 39
	Institute for National Strategic Studies (INSS)	p. 45
	Center for Complex Operations (CCO)	p. 45
	Center for Strategic Research (CSR)	p. 47
	Center for the Study of Chinese Military Affairs (CSCMA)	p. 49
	Center for the Study of Weapons of Mass Destruction (CSWMD)	p. 51
	Center for Technology and National Security Policy (CTNSP)	p. 52
	National Defense University Press	p. 53
	Flag Officer and Senior Enlisted Education	p. 54
	CAPSTONE	p. 54
	PINNACLE	p. 54
	KEYSTONE	p. 54
P	UBLICATIONS	p. 56
E	DUCATIONAL AND INSTITUTIONAL ENABLERS	p. 64
	Accreditation	p. 64
	Distinguished Leader Program	p. 64
	Center for Applied Strategic Learning (CASL)	p. 66
	Conflict Records Research Center (CRRC)	p. 67

Facilities	p. 67
Health and Fitness (HF)	p. 68
Human Resources (HR)	p. 70
International Student Management Office (ISMO)	p. 71
NDU Libraries	p. 72

Illustrations

Tables

	Ι.	FY 2014 University Fiscal Resources	p. /
	2.	FY 2015 University Fiscal Resources	p. 7
	3.	University Facilities	p. 8
	4.	CISA Overall Student Enrollment	p. 11
	5.	CISA Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service.	p. 11
	6.	CISA Student Educational Background	.p. 12
	7.	CISA International Students and Faculty	.p. 13
	8.	CISA Faculty Educational Background	p. 14
	9.	Eisenhower Overall Student Enrollment	.p. 20
	10.	. Eisenhower Student Educational Background	p. 21
	11.	Eisenhower Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and	
		Service	.p. 22
	12.	. Eisenhower International Students and Faculty	.p. 23
	13.	Eisenhower Faculty Educational Background	.p. 24
	14.	. IRMC Student Enrollment	p. 27
	15.	. IRMC Civilian Students by DOD Agency, Sub-Agency, Bureau and Service	.p. 28
		. IRMC Civilian Students by Non-DOD Agency, Sub-Agency, Bureau and Service	•
	17.	. IRMC International Student Enrollment	.p. 30
	18.	. IRMC Faculty Educational Background	.p. 30
	19.	JFSC Student Enrollment	p. 35
	20.	. JFSC Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service.	p. 35
	21.	. JFSC Student Educational Background	p. 36
		. JFSC International Student Enrollment	•
	23.	. JFSC Noncredit/Program Course Enrollment	p. 37
		. JFSC Faculty Educational Background	•
		NWC Overall Student Enrollment	•
		. NWC Civilian Students by Executive-level Agency, Sub-Agency, Bureau, and Service	
		NWC Student Educational Background	•
		NWC International Student Enrollment	•
	29.	NWC Faculty Educational Background	p. 44
Fig	gure	es established to the second of the second o	
	1.	NDU Students	p. 6
	2.	NDU Personnel	p. 6
	3.	Title 10 Employees' Highest Level of Education	p. 7

INTRODUCTION

The National Defense University (NDU) educates, develops, and inspires national security leaders. As security threats evolve at a quickening pace, this complex and dynamic environment requires innovative strategists serving in key leadership positions to counter those threats. The surest way to safeguard the nation's interests is by educating and developing leaders to think critically, strategically, and holistically to produce whole-of-governments solutions. The primary purpose of the National Defense University is to provide leader education and development. This report details NDU's work during Academic Year 2014-2015 (July 1, 2014 to June 30, 2015).

NDU is the nation's premier institution for strategic leader development. NDU brings to bear 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 whole-of-government approach; dedicated academic and institutional support systems; deep partnerships across the interagency and international landscape; and engagement with national and international strategic leaders. As a result, NDU provides rigorous Joint Professional Military Education (JPME) and other tailored education and development programs to the future strategic leaders of the U.S. Armed Forces, the interagency, and international partners. This approach produces leaders with the ability to think critically and lead effectively in a dynamic, unpredictable, and complex world.

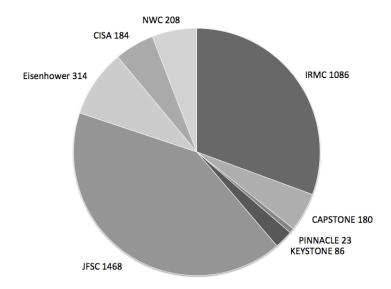
This year, NDU again achieved its primary mission, delivering targeted education programs to more than 3,500 graduate-level students, in addition to providing non-credit short courses to more than 11,400 military students. NDU scholars also conducted a wide range of outreach programs that informed, educated, and engaged key stakeholders. University faculty researched and published scholarly articles in professional journals. The NDU Press produced quarterly issues of the *Joint Force Quarterly* and *PRISM* journals, as well as key publications, including:

- Lessons Encountered: Learning from the Long War
- Impunity: Countering Illicit Power in War and Transition
- Convergence: Illicit Networks and National Security in the Age of Globalization
- Beyond Convergence: World Without Order
- Women on the Frontlines of Peace and Security

NDU's continued significant contributions to national security would ultimately lead to the university earning the Joint Meritorious Unit Award for "tremendous advancements in education, international relations, infrastructure, and technology [and] ... set the standard for educational excellence in Joint Professional Military Education while maintaining the benchmark by which all professional military education schools worldwide are judged."

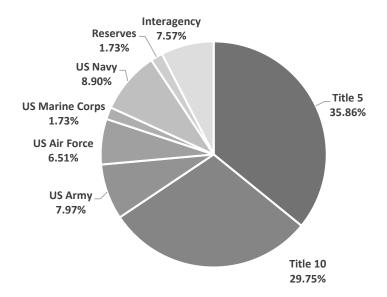
NDU BY THE NUMBERS

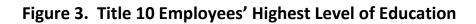
Figure 1. NDU Students



NOTE: These students are in addition to the 11,435 noncredit students in JFSC programs.

Figure 2. NDU Personnel





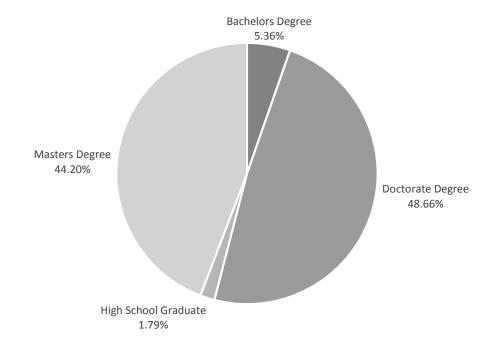


Table 1. FY 2014 University Fiscal Resources

Category	Direct	Reimbursable	Total by Expenditure Category
Education/Leader Development	\$40.43	\$12.46	\$52.89
Scholarship	\$6.21	\$7.06	\$13.27
Institutional Enabler	\$41.37	\$9.34	\$50.71
Total by Funding Source (millions)	\$88.01	\$28.86	\$116.87

Table 2. FY 2015 University Fiscal Resources

			Total by Expenditure
Category	Direct	Reimbursable	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 3. University Facilities

Facility Name	Building Number	Campus	Square Footage
Lincoln Hall	64	Fort McNair	250,000
Marshall Hall	62	Fort McNair	243,000
Normandy Hall	SC-1	Norfolk	165,000
Eisenhower Hall	59	Fort McNair	144,000
Roosevelt Hall	61	Fort McNair	116,000
Okinawa Hall	SC-4	Norfolk	74,000
Marianas Hall	SC-400	Norfolk	40,000
Facilities Building	SC-401	Norfolk	22,000
Old Gym	SC-126	Norfolk	17,000
Grant Hall	20	Fort McNair	12,000
Davis Hall	21	Fort McNair	12,000
Other Owned & Leased Space		*	37,000
Total Square footage			1,132,000

^{*}approximation

EDUCATION, RESEARCH, OUTREACH, AND PARTNERSHIP

NDU executes its education mission via five colleges, each with a distinct focus that provides unique education and leader development opportunities. NDU's education programs offer a combination of rigorous graduate education and, in some cases, the ability to grant JPME II certification, a major requirement for the award of Joint Qualified Officer (JQO) status. The educational experiences of NDU's students are enhanced by the university's research, scholarship, outreach, and partnership programs. Additionally, students and faculty are supported by a network of educational and institutional enablers.

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 U.S. 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 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.

- 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 M.A. (JSOMA) Program in Fort Bragg, NC.
- The CTF Program, also a JPME II level certification and war college experience, is the senior-level flagship of the Office of the Secretary of Defense for Policy's (Special Operations/Low Intensity Conflict) worldwide combating terrorism educational portfolio and has produced over 600 international graduates from 91 countries. Many of the international students in the CT Fellowship at CISA return to their countries with strategic plans for the security challenges their countries are facing.
- Developed at the request of the Chairman of the Joint Chiefs of Staff in support of U.S.
 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 or Pakistan. JSOMA
 is sponsored by U.S. Special Operations Command, and focuses on developing strategic-level
 capabilities of special operations forces leaders.

CISA graduate certificates include the Homeland Defense Fellowship (HDF) Program and the Nuclear and Energy Security Program (NESP). The NESP is built on core courses from the well-

established HDF Program to provide tailored curriculum for employees from the Department of Energy and National Nuclear Security Administration. Short courses provided by CISA included the Reserve Component National Security Course (RCNSC), a two-week seminar for U.S. Reserve Component senior officers and non-commissioned officers, allied officers, and select civilians working in national security. RCNSC laid a foundation for 276 students moving to joint command management and staff responsibilities in AY 15.

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 (i.e., history, political science, 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 eight books and numerous articles, appeared on radio and television talk shows, and presented research at U.S. and international conferences. Notably, three faculty members were awarded prestigious Minerva grants and four were awarded CISA Summer Research Fellowships – a new program to further enhance faculty scholarship.

Committed to continued graduate engagement, CISA extended support for joint warfighters via outreach to interagency and international partners, leveraging benchmark CISA exercises. In addition to an extensive guest speaker series, CISA also partnered with the National Counterterrorism Center to hold a joint conference on *The Extremist Mosaic: Perspectives on a Dynamic & Fracturing Global Terrorism Movement*. In June, CISA also hosted an alumni symposium in Amman, Jordan entitled "Combating Terrorism: Assessment and Response." Speakers included Prince Faisal Bint al Hussein of the Royal Court, CISA alumni, and colleagues from the Joint Staff, State Department, and NCTC. Panels covered regional challenges and crosscutting issues, such as refugees and foreign fighters in Syria. More than 60 alumni attended from 20 different countries in the Middle East, Africa, and South Asia. CISA faculty lectured on issues from Countering Violent Extremism to Adapting Professional Military Education to Address International Security. CISA faculty and alumni also participated in the NDU Alumni Regional Seminar in June in Cartagena, Colombia, engaging in analysis of current regional events, civil-military relations, security cooperation, and comprehensive approaches to combating terrorism.

Table 4. CISA Overall Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	63	2	1	66
U.S. Air Force	13	0	0	13
U.S. Navy	11	0	0	11
U.S. Marine Corps	11	0	0	11
U.S. Coast Guard	1	0	0	1
International Officer				51
International Civilian				7
DoD Civilian				4
Interagency Civilian				20
Total Enrollment				184

Note: Note: Active and Reserve components apply only to U.S. military Services; thus numbers may not sum to total across Active/Reserve status. In addition, one International Civilian included above was enrolled on a part-time basis for completion of the M.A. thesis

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

	Agency	Enrollment
DOD	Defense Intelligence Agency	3
Agency	National Geospatial-Intelligence Agency	1
	Total	4
NON-	Department of Energy-Office of Science	1
DOD Agency	Department of Homeland Security	3
/ igolioy	Department of State	
	Department of Transportation	1
	Federal Bureau of Investigation	1
	Immigration and Customs Enforcement Bureau	2
	National Counterterrorism Center	3
	National Nuclear Security Administration	3
	Total	20

Table 6. CISA Student Educational Background

Student Category	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Other*	Total
U.S. Army	53	13	0	0	66
U.S. Air Force	2	11	0	0	13
U.S. Navy	7	4	0	0	11
U.S. Marine Corps	7	4	0	0	11
U.S. Coast Guard	0	1	0	0	1
International Officer	24	19	2	6	51
International Civilian	2	4	1	0	7
DoD Civilians	1	3	0	0	4
Interagency Civilian	13	6	1	0	20
Industry Civilian	0	0	0	0	0
Total	109	65	4	6	184

^{*}Represents highest degree earned upon admission to NDU program.

Table 7. CISA International Students and Faculty

Country	Student International Officer	Student International Civilian	Faculty International Civilian
Albania	1	0	0
Azerbaijan	0	1	0
Bangladesh	2	0	0
Botswana	1	0	0
Brazil	1	0	0
Bulgaria	2	0	0
Burundi	3	0	0
Colombia	3	0	1
Dominican Republic	2	1	0
Egypt	1	0	0
Georgia	0	1	1
Guatemala	1	0	0
India	1	0	1
Indonesia	1	0	0
Jordan	1	0	0
Kenya	2	0	0
Kyrgyzstan	0	0	1
Lebanon	3	0	0
Malaysia	0	1	0
Maldives	1	0	0
Mauritius	1	0	0
Mexico	0	0	1
Morocco	2	0	0
Nigeria	1	1	0
Oman	2	0	2
Pakistan	3	0	0
Peru	1	0	0
Philippines	2	0	0
Russian Federation	0	0	2
Saudi Arabia	2	0	0
Senegal	1	0	0
Sri Lanka	1	0	0
Suriname	1	0	0
Sweden	0	0	1
Tanzania	1	0	0
Thailand	1	0	0
Tunisia	1	0	0
Turkey	0	2	0
Uganda	4	0	0
United Kingdom	0	0	1
Uruguay	1	0	0
Total	51	7	11

Note: One International Civilian included above was enrolled on a part-time basis for completion of the M.A. thesis. Additionally, the Faculty International Civilian include 9 faculty identified as Title X and 1 identified as a contractor on Table 5. No faculty are reported as International military officers.

Table 8. CISA Faculty Educational Background

Faculty Category	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Total**
U.S. Army		2	1	3
U.S. Air Force		2	0	2
U.S. Navy		3	0	3
U.S. Marine Corps		0	0	0
U.S. Coast Guard		0	0	0
International Officer		0	0	0
International Civilian		1	0	1
DoD Civilian (Title 5)		3	1	4
DoD Civilian (Title 10)		5	23	28
Contractor		0	2	2
Interagency Civilian		7	1	8
Private Sector		0	0	0
Total		23	28	51

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

^{**}Total unduplicated count of faculty by 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. In accordance with the guidance that underpinned the Joint Education Transformation promulgated by the Joint Staff in 2013, the Eisenhower School restructured the academic program for this academic year 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. ES is now 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.
- The *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.
- The *National Security and the Industrial Base (NSIB)* department incorporates and integrates the legacy Industry Study program with the Industry Analytics course, both taught in the spring semester.
- The Strategic Leadership (SL) department continues to teach core courses on personal development, organizational change management, and manages the EADP program, described below.

These core courses are supplemented with a Foundation Course during the first five weeks of the academic program, and several school-wide exercises, to include a Committee on Foreign Investment in the United States (CFIUS) negotiation exercise and a fall semester capstone security strategy exercise that promotes the synthesis and integration of subject matter covered during the first 5 months of ES instruction.

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 a key enabler in creating 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 AY 15. 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 of 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. Many faculty are active participants in professional associations and publish articles in their areas of expertise.

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, identifying potential enhancements of curriculum content, structure, evaluation methodologies, and delivery techniques for AY 16 and beyond.

Senior Acquisition Course (SAC) Concentration Program. The Defense Acquisition Workforce Improvement Act (DAWIA) of 1990 authorized the Dwight D. Eisenhower School (ES) for National Security and Resource Strategy 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) 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 which address senior-level contemporary and future policy issues in the field of acquisition, and 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. In Academic Year 2014-2015 there are a total of 63 SAC students from all services, eight Defense Department agencies, three Federal agencies, and two defense industry partners.

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 AY 2007. Students who elect into PMT-401 are automatically enrolled in courses 6152 and 6153, both of which are 'double' electives worth four credit hours each. These courses fulfill the students' elective and research project requirements for the Eisenhower School degree program with an 'overload' of four 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. Average annual enrollment in the elective is 20 students; current enrollment (AY 15) is 22 students.

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 campus at Fort Belvoir, VA. There is also a two-day News Media Training event hosted at DSMC (Fort Belvoir), which entails local travel for students and supporting ES faculty.

Long-Term Strategy (LTS) Concentration Program. Launched in late 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 seriously about the link between long-term strategy and defense investments. It 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 LTS program enrolled 18 students during AY 14-15 in the following courses:

- Seminar on Diagnostic Net Assessment (focused on the appraisal of military balances and long-term military-technological competitions)
- Seminar on Long-Term 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 on Long-Term Strategy Research (where students undertook three team research projects sponsored by OSD Net Assessment).

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.

Supply Chain Management (SCM) Concentration Program. Supply Chain Management is a driving force behind America's economic growth and prosperity and Defense Logistics, and it is therefore 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 Corp.; Huntington-Ingalls Ship Building; Naval Stations Norfolk, VA and Oceana, VA; Defense Depot Susquehanna, PA; and Letterkenny Army Depot

Executive Assessment and Development Program (EADP). The Executive Assessment and Development Program (EADP) is a web-based, multi-instrument, integrated assessment and development program used to assess preferences, capabilities, strengths, and weaknesses of NDU students, and is 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 and a different instrument, Insights Discovery, is provided for use by non-native-English-speaking International Students at ES.

An important aspect of the Feedback Report is the identification of Career Architect® competencies throughout the report, which may represent areas for personal development. Faculty counselors are certified by completing a 10-hour training/certification workshop conducted by the EADP director, usually over a two-week period each August. More important,

ES faculty members from the Department of Strategic Leadership conduct one-on-one feedback sessions with each student to discuss the findings and their implications for developmental work to be done at ES (e.g., in elective courses) and in follow-on development the student will undertake on his/her own.

The school's current approach to the EADP was recognized as an institutional best practice by the most recent Program for Accreditation of Joint Education (PAJE) inspection in 2010.

Strategic Partnerships

Institute for Higher Education in National Security (IHEDN). The Research and Technology Policy course (ES-6104) is a key elective within the SAC program at the ES. The 6104 R&T Policy course is unique among SAC electives at the Eisenhower School, 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. Together, 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 1-week field study by the U.S. students to Europe for collaborative meetings, and a 1-week field study by the French students to the U.S. 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 or ministry of each respective nation.

The 6104 R&T Policy course is celebrating its 20th anniversary in academic year 2014-2015. Shortly after the inception of the SAC Concentration Program at ES as a DAWIA workforce development initiative, the college initiated the French-U.S. collaborative SAC elective course in academic year 1994-1995, by 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, but averages around 10 students. Over the 20-year course history, over 150 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.

Agile and Adaptive Leadership. The Agile and Adaptive Leadership 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 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, then hand off those relationships to the next cohort of students. This year,

students and faculty in this pilot program explored three focus areas: Veterans reintegration, environment, and humanitarian assistance. The program will continue in AY 16.

Table 9. Eisenhower Overall Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	60	1	1	62
U.S. Air Force	55	3	3	61
U.S. Navy	36	0	0	36
U.S. Marine Corps	15	2	0	17
U.S. Coast Guard	3	0	0	3
International Officer			-	29
International Civilian			-	2
DoD Civilian			-	60
Industry Civilian				2
Interagency Civilian				42
Total Enrollment				314

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	Attended ILC	Attended SLC	Joint Exp.	Op. Exp.	Command 0-5 Exp.	Command O-6 Exp.	Bachelor's Degree	Master's Degree	Doctoral / Prof. Degree	Total**
U.S. Army	62	0	19	56	38	0	62	56	5	62
U.S. Air Force	53	0	44	54	45	0	61	61	3	61
U.S. Navy	13	0	19	36	15	2	36	31	1	36
U.S. Marine Corps	11	0	4	17	15	0	17	13	1	17
U.S. Coast Guard	3	0	1	3	1	0	3	3	1	3
Total	142	0	87	166	114	2				179

Note: Student Educational Background information is only available for U.S. Military Students.

Note: Total of 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-6 Experience.

^{*}Represents prior education earned upon admission to NDU program.

^{**}Unduplicated student enrollment number. This is not the sum across columns.

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

	Agency	Enrollment
	Defense Acquisition University	1
	Defense Contract Management Agency	1
	Defense Information Systems Agency	1
	Defense Intelligence Agency	5
×	Defense Logistics Agency	4
DoD Agencies	Department of Defense	1
ger	Department of the Air Force	11
Y	Department of the Army	11
DoI	Department of the Navy	9
	Joint Staff	2
	Military Sealift Command	1
	National Geospatial-Intelligence Agency	4
	National Security Agency/Central Security Service	5
	Office of the Secretary of Defense	4
	Total	60
	Central Intelligence Agency	3
	Department of Energy	1
ies	Department of Homeland Security	8
) Senc	Department of Justice	3
Ag	Department of State	18
Q ₀ Q	Department of Veterans Affairs	2
Non-DoD Agencies	Government Accountability Office	1
Ž	Office of Management and Budget U.S. Agency for International Development	
	Industry	2
	Total	42

Table 12. Eisenhower International Students and Faculty

Country	Student International Officer	Student International Civilian	Faculty International Officers
Afghanistan	1	0	0
Algeria	1	0	0
Armenia	0	1	0
Brazil	1	0	0
Canada	2	0	1
Czech Republic	1	0	0
Estonia	0	1	0
France	1	0	0
Indonesia	2	0	0
Israel	2	0	0
Italy	1	0	0
Japan	1	0	0
Jordan	1	0	0
Lebanon	1	0	0
Malaysia	2	0	0
Mongolia	1	0	0
Morocco	1	0	0
New Zealand	1	0	0
Nigeria	1	0	0
Oman	2	0	0
Pakistan	1	0	0
Philippines	1	0	0
Poland	1	0	0
Saudi Arabia	1	0	0
United Arab Emirates	1	0	0
Ukraine	1	0	0
Total	29	2	1

Table 13. Eisenhower Faculty Educational Background

Faculty Category	Bachelor's Degree*	Master's Degree*	Doctoral/Professional Degree*	JQO	SLC Graduate	Total**
U.S. Army		8	4	9	1	12
U.S. Air Force		9	1	9	1	10
U.S. Navy		7	0	5	2	7
U.S. Marine Corps		2	0	2	0	2
U.S. Coast Guard		1	0	0	0	1
International Officers		1	0	0	1	1
DoD Civilian		6	0	1	-	6
Title10		5	29	-		34
Contractor		0	0			0
Interagency Civilians		7	4			11
Total		46	38	25	5	84

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 by category

Information Resources Management College (IRMC)

This academic year was characterized by growth and change for the Information Resources Management College (IRMC). Building on and sustaining its recognized excellence in preparing and educating military and civilian leaders to lead and leverage the information pillar of national power, IRMC accelerated key programs to address critical gaps in Joint Professional Military Education, synchronize University wide delivery of information operations and cyberspace education, and clarify stakeholder relationships, requirements, and expectations.

Demand and enrollment across the master's degree and certificate programs continued to increase this year. Student success was reflected in the award of 80 Master of Science degrees. IRMC supported DoD Information Technology (IT) and Cyber Security workforce qualifications via graduate certificates in:

- Chief Information Officer
- Chief Financial Officer
- Cyber Security
- Cyber Leadership
- Enterprise Architecture
- IT Acquisition

IRMC offered the senior development program for Defense Information Systems Agency (DISA) to enhance strategic decision-making for cyber professionals and conducted two sessions of the Advanced Management Program, leading to award of Federal CIO certificate. It contributed to DoD and national policy on cyber security and cyberspace via consultation and immersion for Congressional staff, Office of the Secretary of Defense, interagency and international partners. IRMC also worked with the Navy, Air Force, and U.S. Cyber Command to establish education programs supporting officer development for their cyberspace professionals and emerging leaders.

Key special initiatives

In July 2014, IRMC, in collaboration with the Army Cyber Institute, conducted Cyber Beacon II, a Cyber Workforce Development Education and Training Workshop at NDU. More than 40 representatives from the Services, Joint Staff, DoD agencies, academia, and the private sector participated. By bringing together stakeholders for cyber education and training, IRMC was able to provide situational awareness on current programs, identify gaps, and develop objectives to support a more coherent system of cyberspace education opportunities. Insights from the workshop highlighted a critical lack of strategic education for practitioners tasked with developing and executing cyber strategies in the operational force and added emphasis to the development of the pilot JPME II program. It additionally highlighted the potential value of leveraging the Reserve component as a source of cyberspace skills and education.

IRMC was established as functional lead for Information Operations and Cyberspace education across NDU. In this role, IRMC will assess domain curricula at all NDU components for validity, coherence and relevance, and will develop strategies to fully leverage these capabilities.

In April 2015, IRMC was tasked by the Joint Staff to accelerate the pilot of a JPME II Senior Service School Cyber Strategy 10-month resident program. Directed to commence in AY 16, the pilot course will begin to address a critical need for a strategic-level program of education to prepare national security professionals from the perspective of cyberspace and its implications on kinetic and diplomatic operations. A spring 2016 Staff Advisor Visit is projected with a November 2016 Process for Accreditation of Joint Education visit.

IRMC faculty continued to engage in a wide range of outreach efforts including:

- Conduct of special request briefings on tailored subject areas and IRMC programs
- Conduct of cyberspace terrain walks to provide immersive experiences for senior leaders and advisors (DoD, interagency, and international) to better understand cyberspace vulnerabilities and the implications of cyberspace policy decisions
- Support for U.S. CYBERCOM and AF CYBERCOM cyberspace education teaching teams
- Presentation of research at multiple venues
- Support to the American Society of Military Comptrollers, DoD Chief Financial Officer, and federal CFO/CIO councils
- Partnership with accredited universities, whose programs are well aligned with IRMC curriculum, to provide additional student opportunities and to provide faculty with potential program collaboration

Table 14. IRMC Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	98	8	2	108
U.S. Air Force	120	8	4	132
U.S. Navy	79	3	0	82
U.S. Marine Corps	13	0	0	13
U.S. Coast Guard	18	0	0	18
International Officer			-	19
International Civilian			-	1
DoD Civilian			-	711
Interagency Civilian			-	96
Private Sector			1	20
Total Enrollment				1,200

Note: Active and Reserve Components apply only to U.S. military Services; thus numbers may not sum to total across Active/Reserve status. In addition, 6 IRMC faculty/staff members enrolled in NDU courses and are not included in the student enrollment table.

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

DOD Agency	Student Enrollment
Defense Commissary Agency	1
Defense Contract Audit Agency	6
Defense Contract Management Agency	2
Defense Finance and Accounting Service	3
Defense Health Agency	7
Defense Human Resources Activity	3
Defense Information Systems Agency	165
Defense Intelligence Agency	16
Defense Logistics Agency	12
Defense Security Cooperation Agency	1
Defense Security Service	13
Defense Technical Information Center	1
Defense Threat Reduction Agency	2
Department of Defense	19
Department of Defense Inspector General	3
Department of the Air Force	209
Department of the Army	77
Department of the Navy	123
Fleet Readiness Center East	1
Joint Communications Unit	1
Joint Staff	3
Joint Staff - J6	3
Joint Staff - J7	1
Missile Defense Agency	2
National Geospatial-Intelligence Agency	1
National Security Agency/Central Security Agency	5
Office of the Secretary of Defense	6
Organization of the Joint Chiefs of Staff	3
Pentagon Force Protection Agency	2
United States Central Command	1
United States Cyber Command	1
United States European Command	3
United States Special Operations Command	7
United States Transportation Command	5
Washington Headquarters Services	3
Total	711

In addition, 6 IRMC faculty/staff members enrolled in NDU courses who are not included in the student enrollment table

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

Agency	Student
Agency	Enrollment
Bureau of Customs and Border Protection	2
Census Bureau	1
Consumer Financial Protection Bureau	1
Department of Agriculture	2
Department of Commerce	2
Department of Energy	11
Department of Health and Human Services	1
Department of Homeland Security	2
Department of Housing and Urban Development	1
Department of Interior	1
Department of State	31
Department of Transportation	2
Department of Treasury	4
Department of Veterans Affairs	6
Department of Homeland Security	1
Environmental Protection Agency	1
Federal Aviation Administration	9
Federal Bureau of Investigation	4
Federal Trade Commission	1
General Services Administration	1
Library of Congress	1
Nuclear Regulatory Commission	1
Office of the Director of National Intelligence	3
Small Business Administration	1
United States Court of Appeals for Veterans Claims	2
United States Federal Agency	1
U.S. Agency for International Development	3
Total	96

Table 17. IRMC International Student Enrollment

Country	Student International Officer	Student International Civilian
Canada	0	1
Czech Republic	1	0
Israel	2	0
South Korea	1	0
Morocco	1	0
Pakistan	1	0
Philippines	2	0
Portugal	6	0
Oman	1	0
Saudi Arabia	1	0
Serbia	2	0
Ukraine	1	0
Total	19	1

Table 18. IRMC Faculty Educational Background

Faculty Category	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Total**
U.S. Army		2	2	4
U.S. Air Force		2	0	2
U.S. Navy		3	0	3
U.S. Marine Corps		0	0	0
U.S. Coast Guard		0	0	0
International Officer		0	0	0
International Civilian		0	0	0
DoD Civilian (Title 5)		0	0	0
DoD Civilian (Title 10)		13	13	26
Contractor		0	0	0
Interagency Civilian		3	0	3
Private Sector		0	1	1
Total	-	23	16	39

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

^{**}Total unduplicated count of faculty by category

Joint Forces Staff College

The Joint Forces Staff College (JFSC) mission is to educate national security professionals to plan and execute joint, multinational, and interagency operations and 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 Brad Williamson, USN, is the 32nd Commandant.

JFSC addresses the needs of the 21st-century warfighting environment by educating and graduating 1,311 Joint Professional Military Education Phase II and Phase II equivalent students, including 962 active duty officers, 161 reserve component officers, 76 international fellows, and 30 civilians educated using a variety of curriculum delivery methods. These delivery methods include distance learning, in-residence, and satellite classrooms. In addition, the Joint, Command, Control, and Information Operations School (JC2IOS) graduated an additional 276 students (108 credit-bearing) in a variety of courses, as required 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 JFSC students live, learn, and socialize together. The students benefit from being located amongst a mixture of large Navy, Air Force, and Army commands, which allows students to observe how each service tackles common problems, such as cyber defense, joint logistics, kinetic and non-kinetic fires, and information operations.

There are four schools within JFSC:

- 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. They are master campaign planners, able to lead joint planning efforts in developing comprehensive campaign and contingency plans. Each year, JAWS graduates immediately take on demanding staff responsibilities for the Combatant Commands. 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 international standard for JPME II by preparing joint staff officers, international partners, and interagency civilians to solve

complex problems within an operational planning framework. JCWS has established a pilot satellite location in Tampa, Florida, to augment the in-residence program in Norfolk, where the majority of students are educated. Additional satellite program locations are projected for AY 16. The almost 1,100 annual JCWS graduates meet approximately two-thirds of the joint community's demand for JPME II certified officers.

The **Joint Continuing and Distance Education School (JCDES)** formerly consisted of the Advanced Joint Professional Military Education (AJPME) program and the Senior Enlisted Joint Professional Military Education (SEJPME) program. The AJPME program graduated 221 Reserve Component officers, who filled critical joint billets alongside their active duty colleagues. AJPME 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. At the direction of the Joint Staff J7, administration of the SEJPME program moved to the Joint Knowledge Online learning management system.

The **Joint Command, Control, and Information Operations School (JC2IOS)** continues to support the Joint Staff J6 and J39 Directorates with a variety of short courses focusing on information operations (IO), operational security, cyber-warfare, military deception, and a command, control, communications, computers and intelligence course (C4I). JC2IOS took responsibility for teaching the Defense Military Deception Training Course and the Defense Operational Security Planning Course. The IO Division conducts a four-week Joint IO Planners Course and a one-week Joint IO Orientation Course. The C4I division conducts a three-week Joint C4I Staff and Operations Course, covering C4I policy, doctrine, systems, and capabilities.

JFSC programs are accredited by both the Middle States Commission on Higher Education and by the Process for Accreditation of Joint Education (PAJE) under the Chairman of the Joint Chiefs of Staff Officer Professional Military Education Policy (OPMEP).

Outreach

This year, JFSC supported Combatant Commanders and other joint entities by providing mobile training teams (MTT) for a variety of operational-level training and education.

Outreach activities also included:

- Dr. Bryon Greenwald, JAWS, was an invited guest speaker at the Western Hemisphere Institute for Security Cooperation in October
- Dr. Sterling Pavelec, JAWS, provided a workshop on best practices for teaching history of the military art to the Republic of Georgia Defense Academy in Gori in October

- Dr. Robert Antis, JAWS, serving as the Academic Co-Lead for the U.S./NATO Defense Education Enhancement Program in the Republic of Georgia, led an international team of Senior Enlisted Advisors on a site survey of the Georgian NCO Training Center in Kojori, Georgia in November
- LTC Eric Roitsch, JCDES, developed the curriculum and courseware for the initial offering of Joint Special Operations University's (JSOU) Countering Violent Extremism (CVE) course and provided instruction to a class of 14 personnel, 11 of whom were international officers representing 9 countries
- JC2IOS conducted an MTT visit to support USPACOM in February
- COL Stephen Rogers, JAWS, published "Learning Trust: A Leadership Lesson from Twelve Years at War," published in the Army War College Review, Vol. 1, No. 1, February 2015
- Dr. Robert Antis, JAWS, was part of an international team from the Partnership for Peace Consortium, providing a workshop on active learning and classroom assessment techniques to the Republic of Georgia National Defense Academy in Tbilisi, Georgia in February
- AJPME and JCWS personnel conducted an MTT for 353rd Civil Affairs Command in February
- JCWS personnel regularly facilitated Staff Rides at the Yorktown Battlefield for organizations and agencies outside of the Joint Planning and Execution Community, to include the National Intelligence Council and various tactical units in the Hampton Roads area
- JCWS supported USEUCOM with an MTT visit in March
- CDR James Corlett provided a presentation on the AJPME program's reduction of transactional distance through use of the Blackboard Learning Management System to the Joint Staff J7 Military Education Coordination Committee's Distance Learning Coordination Sub-Committee
- JCWS conducted an MTT visit to 20th Air Force in March
- Dr. Keith Dickson, Dr. Bryon Greenwald, Dr. Greg Miller, and Dr. Sterling Pavelec, JAWS, along with 4 JAWS students, presented a JAWS student-led panel on research topics at the Society of Military Historians symposium at Air University in March; all four faculty also served roles on other panels
- JCWS conducted an MTT visit to the 85th Civil Affairs Brigade in March
- Dr. Robert M. Antis, JAWS, participated in a workshop to help develop an effective assessment and evaluation program at the Georgian NCO Training Center in March
- JC2IOS conducted an MTT visit to USSOUTHCOM in April
- JFSC conducted an MTT visit to the USCG District 8 headquarters in April
- JCWS conducted a "by request" operations planning MTT for the White House Medical Unit in April
- JC2IOS conducted MTTs for the Office of the Undersecretary of Defense for Intelligence in February and May.

- JCWS conducted an MTT for the 694th ISR Group in Korea in May
- Dr. Sterling Pavelec, JAWS, provided the keynote presentation at the 100th Anniversary of the Great War Conference, Sahir University, Istanbul, Turkey, in June

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, 30 JFSC faculty members completed the VTC Certificate on College Teaching program. In addition, 5 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, including:

- COL Chris Rogers, USA, JAWS; Major Sean M. Camp, USAF, JC2IOS; Commander Christopher Oden, USN, JCWS; and Commander Brian Goldschmidt, JCDES, earned the John A.
 Williamson Recognition of Academic Excellence Faculty Award presented by the NDU Foundation for outstanding teaching prowess and scholarship
- The Military Officers Association of America (MOAA) awarded its Joint Educator of the Year Award to Assistant Professor Thomas Snukis, JCWS
- Commander Brian Goldschmidt, USN, JCDES, earned the 2014-2015 Advanced Joint Professional Military Education Instructor of the Year Award
- Dr. Patricia Strait, Dean of JFSC, was awarded the Old Dominion University's Distinguished Alumni Association Award

Table 19. JFSC Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	361	68	49	478
U.S. Air Force	355	46	40	441
U.S. Navy	247	40	0	287
U.S. Marine Corps	74	13	0	87
U.S. Coast Guard	5	1	0	6
International Officer				78
International Civilian				1
DoD Civilian			-	18
Interagency Civilian			-	4
Contractor				1
Civilian - Unknown			1	18
Total Enrollment				1,419

Note: Active and Reserve components apply only to U.S. military Services; thus numbers may not sum to total across Active/Reserve status. In addition, International Officer includes two JIOPC students (1 Canada, 1 UK) who attended on US billets.

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

	Agency	Enrollment
	Defense Intelligence Agency	7
w	Defense Information Systems Agency	1
<u></u>	Department of the Air Force	1
Agencies	Department of the Navy	1
A ₀	Joint Staff	2
ОоО	National Geospatial-Intelligence Agency	1
	National Security Agency	1
	Unknown DoD	4
	Total	18
O &	Department of State	2
Non-DoD Agencies	Federal Bureau of Investigation	1
on-	National Park Service	1
Ζď	Unknown	
	Total	4

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*	Unknown*	Total
U.S. Army	371	70	302	185	110	44	53	336	18	15	56	478
U.S. Air Force	369	160	310	158	137	34	20	347	15		59	441
U.S. Navy	186	51	175	111	64	8	32	222	6	6	21	287
U.S. Marine Corps	66	6	62	31	15	3	31	41	3	2	10	87
U.S. Coast Guard	2	2	3	4	2	0	2	4	0	0	0	6
International Officer							14	43	0	4	17	78
International Civilian							0	1	0	0	0	1
DoD Civilian							6	11	0	1	0	18
Interagency Civilian							3	1	0	0	0	4
Industry Civilian							0	0	0	0	0	0
Contractor							0	1	0	0	0	1
Civilian - Unknown							5	9	0	2	2	18
Total	994	289	852	489	328	89	166	1016	42	30	165	1,419

Note: ILC, SLC, Joint Experience, Operational Experience, Command O-5, and Command O-6 experience data not available for JC4ICSOC and JIOPC. Operational experience data is not included for JCWS 14-4 and 15-1. Data in this tables includes JAWS, AJPME, and JCWS (where available). This table also includes two JIOPC students (1 Canada, 1 UK) who attended on US billets.

^{*}Represents highest degree earned upon admission to NDU program. "Other" category includes High School, Associate's Degree or Comparable, and Other.

^{**}Total of 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.

Table 22. JFSC International Student Enrollment

Country	Student International Officer	Student International Civilian
Albania	1	0
Australia	2	0
Brazil	4	0
Chile	5	1
Denmark	1	0
Egypt	2	0
Finland	1	0
Germany	1	0
Indonesia	3	0
Japan	2	0
Kenya	1	0
Lebanon	8	0
Morocco	1	0
Norway	1	0
Philippines	4	0
Poland	1	0
The Republic of Macedonia	1	0
Saudi Arabia	4	0
South Korea	17	0
Turkey	8	0
Ukraine	1	0
United Arab Emirates	2	0
United Kingdom	2	0
Uruguay	3	0
TOTAL	76	1

Note: Does not include two JIOPC students (1 Canada, 1 UK) who attended on US billets.

Table 23. JFSC Noncredit/Program Course Enrollment

Course/Program	Total Enrollment
Defense Military Deception Training Course	39
Joint Information Operations Orientation Course (JIOOC)	11
Defense Operations Security Planning Course (DOPC)	69
Joint Information Planner's Course (JIPC)	49
Total Enrollment	168

Table 24. JFSC Faculty Educational Background

Faculty Category	Bachelor's Degree*	Master's Degree*	Doctoral/ Professional Degree*	Joint Qualified Officer	SLC Graduate	Total**
U.S. Army	3	16	2	17	5	21
U.S. Air Force	0	17	2	16	19	19
U.S. Navy	2	22	1	17	1	25
U.S. Marine Corps	1	5	0	3	2	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	0	0	0	0	0
DoD Civilian (Title10)	0	16	12	20	11	28
Contractor	0	1	0	1	0	1
Interagency Civilians	0	4	0	1	1	4
Total	6	81	17	75	39	104

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

^{**}Total unduplicated count of faculty by category.

National War College

The National War College (NWC), led by its Commandant, Brigadier General Guy "Tom" Cosentino (USA), continued to fulfill 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."

In pursuit of that mission, NWC continued refining curriculum initiatives resulting from a thorough curriculum review completed in the spring of 2013. Those initiatives included demanding more rigorous strategic analysis, increasing the emphasis on developing strategies, introducing additional critical analysis tools, focusing on depth over breadth, reshaping the treatment of strategic leadership to focus on the challenges confronting those charged with leading the nation's strategic efforts, and employing appropriate educational technologies.

NWC also undertook a major restructuring of its curriculum as part of NDU's Joint Educational Transformation. This restructuring organized the curriculum into three phases:

- The first phase comprised a Strategic Leader Foundational Course that emphasized: The statutory JPME Phase II requirements stipulated in Title 10 of the United States Code, Chapter 107; the Desired Leader Attributes promulgated by CJCS; and lessons from the Decade of War.
- 2) Building on that foundational course, the second phase comprised the college's traditional core curriculum. That core curriculum introduced the fundamental elements of strategic logic, 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 analysis, 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 third phase of the curriculum, the capstone, students took a series of elective courses, 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.

The faculty continued to be the strength of the college. On the practitioner side, the military Services and civilian agencies continued fulfilling their commitments to provide top-quality senior professionals for faculty duty at the NWC, while replacing 19 of the 39 military and agency faculty who were rotating out after a 2-3 year tour of service. On the academic side, to replace retirements and resignations, the college successfully recruited 5 outstanding civilian academics (out of 21 total), as well as a new Dean of Faculty. These hires enabled the college to continue meeting the 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. Three faculty members took sabbaticals to focus on key research:

- Dr. Bernard Finel researched European responses to Islamist terrorism
- Dr. Richard Andres examined cyber issues and potential responses
- Dr. William Hill completed a book on Western efforts to integrate post-Soviet Russia into the Euro-Atlantic security architecture

In other outreach efforts, Ms. Lisa Bronson conducted workshops across the U.S. Government on scenario planning and Dr. Theresa Sabonis-Helf served on the NATO Defence College Advisory Board. Finally, Dr. Bernard D. Cole was named the U.S. Naval Institute Author of the Year in 2015 for his numerous publications and contributions to maritime strategic debate.

Table 25. NWC Overall Student Enrollment

Student Category	Active	Reserve	Guard	Total
U.S. Army	37	3	3	43
U.S. Air Force	41	1	1	43
U.S. Navy	23	0	0	23
U.S. Marine Corps	17	0	0	17
U.S. Coast Guard	2	0		2
International Officers	32	-		32
International Civilians	0	-		0
DoD Civilians	17	-		17
Industry Civilians	0			0
Interagency Civilians	31			31
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
	Department of Army	2
S	Department of Defense Agency*	1
Agencies	Defense Intelligence Agency	4
Age	Joint Staff	1
DoD	Office of Secretary of Defense	4
۵	National Geospatial-Intelligence Agency	2
	National Security Agency/Central Security Service	3
	Total	17
	Central Intelligence Agency	1
O Ø	Department of Homeland Security	3
Non-DoD Agencies	Office of Director of National Intelligence	1
n-[Department of Justice	1
io N	Department of State	21
	Department of Treasury	1
	U.S. Agency for International Development	3
	Total	31

^{*}Specific agency within the Department of Defense was not specified.

Table 27. NWC Student Educational Background

Student Category	Attended ILC**	Attended SLC**	Joint Exp.**	Oper. Exp.**	Command 0-5 Exp**	Command O-6 Exp.**	BA/BS Degree*	MA/MA Degree*	Doctoral/ Professional Degree*	Other *	Total
U.S. Army	43		11	41	35	0	1	41	1	0	43
U.S. Air											
Force	43		11	40	40	1	0	40	3	0	43
U.S. Navy	18		11	22	11	2	3	19	1	0	23
U.S. Marine Corps	17	-	2	17	17	0	5	11	1	0	17
U.S. Coast Guard	1		0	2	1	0	0	2	0	0	2
International Officers	21		12	19	28	20	7	21	1	3	32
International Civilians	0		0	0	0	0	0	0	0	0	0
DoD Civilians	0		11	4	2	2	7	10	0	0	17
Interagency Civilians	0		6	3	4	2	13	13	4	1	31
Industry Civilians	0	1	0	0	0	0	0	0	0		0
Total	143		64	148	138	27	36	157	11	4	208

Note: SLC attendance data not collected

^{*}Represents highest degree earned upon admission to NDU program.

^{**}Total of NWC 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.

Table 28. NWC International Student Enrollment

Country	Student International Officer
Armenia	1
Australia	1
Bangladesh	1
Bulgaria	1
Canada	1
Columbia	1
Egypt	1
Ethiopia	1
France	1
Georgia	1
Germany	1
Greece	1
India	1
Italy	1
Korea	1
Kuwait	1
Nepal	1
Netherlands	1
Nigeria	1
Norway	1
Pakistan	2
Romania	2
Saudi Arabia	2
Serbia	1
Taiwan	1
Turkey	1
Ukraine	1
United Arab Emirates	1
United Kingdom	1
Total	32

Note: There were no international civilian students or International faculty members during academic year 2014-2015

Table 29. NWC Faculty Educational Background

Student Category	Bachelor's Degree*	Master's Degree*	Doctoral / Professional Degree*	JQO	SLC Graduate	Total**
U.S. Army		8	1	8	1	9
U.S. Air Force	-	7	1	7	0	8
U.S. Navy	-	4	0	4	0	4
U.S. Marine Corps	-	2	0	2	0	2
U.S. Coast Guard		1	0	0	0	1
International Officer		0	0	0	0	0
International Civilian		0	0	0	0	0
DoD Civilian (Title 5)		0	0	0	0	0
DoD Civilian (Title 10)	1	1	21	2	2	22
Contractor		0	0	0	0	0
Interagency Civilians		11	4	0	6	15
Total		34	27	23	9	61

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 by category

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 NDU's academic and leader development programs; to provide strategic support to the Secretary of Defense, the Chairman of the Joint Chiefs of Staff, and the Unified Combatant Commands; and to interact with other U.S. governmental agencies and the broader national security community. The Institute oversees and coordinates the activities of NDU research centers and its academic press.

INSS conducts research and provides strategic support to the Joint Professional Military Education programs at NDU and senior leader stakeholders in the defense policy and decision-making community. The institute's "holistic" brief is the primary vehicle for coordinating the NDU research program with Pentagon offices, including the Joint Staff's Directorate for Joint Force Development, which oversees military education for the Chairman of the Joint Chiefs of Staff. The briefing provides periodic updates on all research conducted by the University's research centers.

INSS also coordinates cross-cutting research activities to support senior leader research priorities and outreach objectives. For example, over the past year, INSS:

- Conducted briefings and roundtable discussions for numerous CCMD Commanders and other senior civilian and military leaders
- Was commissioned by the Joint Staff to undertake a review of the strategic decision-making associated with the wars in Afghanistan and Iraq, and to publish the findings to inform future leaders' strategic thinking
- Assigned Senior Military Fellows in direct support of the Special Presidential Envoy for the Coalition to Counter the Islamic State
- Assigned Senior Military Fellows to deploy in support of the re-establishment of the Defense Attaché office in Kabul, Afghanistan
- Organized and hosted regular high-level symposia for civilian and military officials and students on topical issues, such as Russia, Syria, and ISIS

These and other events drew upon experts from across the INSS domain and also frequently included faculty from NDU's colleges.

INSS researchers also provided direct support to the implementation year of the University's Joint Education Transformation by teaching an increased number of core and elective courses, in addition to providing their subject matter expert lectures in all NDU 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 interagency personnel in complex operations, to collect and analyze lessons from military and civilian personnel, to improve our understanding of complex national

security challenges, and to incorporate those lessons and improved understanding into policy, doctrine, education, training and exercises.

CCO supports the educational and professional development of national security leaders through analysis and distribution of lessons learned and emerging issues of concern across U.S. defense, diplomatic, and development communities. During this academic year, CCO conducted a broad range of research and support activities to help multiple OSD and Joint Staff entities consider, integrate, and institutionalize cross-organizational lessons from the last decade of war.

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). CCO led the design and execution of the project and wrote a third of the 490-page edited volume. While the manuscript is undergoing final editing and will be published in early October 2015, extracts already have been selected for use in the curriculum in the next academic year. Finally, *Joint Force Quarterly* published the book editors' interview with General Martin Dempsey, the former Chairman of the Joint Chiefs, and *PRISM* published two of the authors' interview with Stephen Hadley, former National Security Advisor. Follow-on work will look at OEF-Philippine Republic and the publication of all original interviews.

Completing its fifth year of publication, CCO's quarterly professional journal, *PRISM*, continues to gain recognition as a forum for sharing lessons and new concepts captured by CCO and other research efforts. It encompasses current and emergent conflict, civil-military engagement in stabilization and reconstruction, and irregular warfare operations. This year, *PRISM* also published supplemental special issues focused on security challenges in Africa and in the Western Hemisphere.

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 - with its books, "Impunity: Countering Illicit Power in War and Transition," and its forthcoming book, "Beyond Convergence: World Without Order." CCO's previous publication, "Convergence: Illicit Networks and National Security in the Age of Globalization," has become a standard text in joint professional military education throughout the U.S., and has influenced combatant command and service strategies, as well as partners in the intelligence community.

CCO maintains close relationships with relevant OSD and Joint Staff functional activities. During the past year, the Joint Staff (J7 – Joint Doctrine Division) leveraged CCO expertise by involving CCO staff in the Joint Doctrine Development process. CCO was the lead author for about half of Joint Publication (JP) 3-07 "Stability Operations" and about one-third of JP 3-08 "Interorganizational Cooperation." CCO made substantial contributions to JP 3-22 "Security Cooperation" and JP 3-07.3 "Peacekeeping Operations." CCO also made substantial contributions to other joint doctrine revision efforts, most notably Joint Publication 2-01.3 "Joint Intelligence Preparation of the Operational Environment." This year, CCO initiated a

project in collaboration with OSD/P that will lead to a better understanding of the challenges inherent in Defense Institution Building, and a book on the subject.

CCO supports Service lessons learned programs and the Joint Lessons Learned Program by posting and disseminating interagency lessons learned and best practices on the Joint Lessons Learned Information System. CCO also cohosted with USIP's conflict prevention workgroup at the 2014 Peace and Stability Operations Training and Education Workshop in support of institutional PME programs. CCO redesigned its website (cco.ndu.edu) in June, generating more than 195,000 visits with 70,000 to *PRISM*-unique pages, with visitors downloading more than 77,000 scholarly documents. CCO also maintains an active Facebook page presence with 1,129 new "likes" for the academic year, which helped further disseminate research.

CCO's research program focused on interagency roles and activities during complex operations, lessons learned, as well as multinational efforts to support complex operations. CCO completed the following reports this year:

- "Translating Special Operations Forces Tactics to Strategy"
- "Sociocultural Analysis Requirements for the Defense Intelligence Enterprise"

Of special note, CCO was deeply involved in the analysis of intelligence tradecraft associated with sociocultural analysis and is a preeminent thought-leader in the development of a new Joint Operating Concept for human aspects of military operations (HAMO). CCO also completed a study for the Minerva Initiative to identify ways of ensuring that Minerva grant-generated research is as relevant to, and usable within, the defense enterprise as possible.

Center for Strategic Research (CSR)

The Center for Strategic Research (CSR) began a period of substantial change during this academic year. Of a relatively small staff of 10 senior civilian fellows, almost half have departed or are planning to do so this year, including the Center's director and its experts on European, African, and Western Hemispheric relations. Currently the Center's highest priority is replacing these fellows with the highest quality analysts available, and finding creative ways to secure additional expertise on areas of great strategic import. One such initiative bore fruit this year, as a position funded by OSD (Policy), an expert analyst on Russian affairs, was hired and will join CSR in early AY 15-16.

The Center's mission has not changed, and it continued to produce directed and non-directed research, both classified and unclassified (mostly the latter), on issues of critical strategic interest to senior leaders in the Pentagon and elsewhere in the national security system. The animating ethos of the center is to serve those who go in harm's way by making contributions to the best possible policy, strategy, planning, and decision-making. To that end, CSR pursued research projects approved in its annual research plan, including writing the majority of the book for the Chairman, Joint Chiefs of Staff, on lessons from the past decade and a half of war. The measure of merit for the center's output continues to be meeting demand from NDU's

Joint Professional Military Education programs, the Joint Staff, the Office of the Under Secretary of Defense for Policy, and other senior officials in the national security system.

In this regard, the previous year was highly successful. CSR senior fellows testified to both the HASC and SASC, and conducted personal briefings for:

- SOCOM Commander General Votel
- SACEUR General Breedlove
- PACOM Admiral Harris
- USFK General Scaparrotti
- Director, CIA
- DJ-3 and staff
- ASD (SO/LIC)
- DASD Strategy
- NSC Senior Director/Special Assistant to POTUS on Africa
- DASD Western Hemisphere
- DASD for Africa, and other stakeholders

CSR fellows also produced staff analyses, trip reports, event reports and presentations for numerous Joint Staff and Policy offices including:

- AFRICOM
- SOCOM
- CENTCOM
- STRATCOM
- SOUTHCOM
- JWAC
- DIA
- National Intelligence Council
- National Geospatial Intelligence Agency
- National Intelligence Conference
- Defense Science Board, and
- Department of State

Almost all of these materials and presentations were unclassified, but CSR did provide multiple classified analyses, mostly related to Counterterrorism (for DoD, FBI, DIA, and USAID) and by way of support to STRATCOM.

In addition, CSR fellows worked full-time in support of the Israeli-Palestinian peace process, including multiple briefings to Secretary of State, Secretary of Defense, Israeli Defense Forces, and Palestinian Authority Security Forces. CSR fellows also served as:

- Lead for General Allen's Borders Working Group as part of U.S.-Israel Security Dialogue
- Direct support for the Special Presidential Envoy for the Coalition to Counter the Islamic State

- In response to a by-name request from the Secretary of State in support of Mideast Peace Process negotiation sessions
- Lead for re-opening the U.S. Defense Attaché Office Kabul (the first in six years)
- Co-Chair of Middle East Track II Discussions (ongoing), and
- In the Stockholm Track 1.5 meetings with North Korean representatives of the DPRK
 Institute for Peace and Disarmament

In terms of overall productivity, the Center maintained its high standards this past year despite the loss of the aforementioned key personnel. Production held steady at over 70 major outputs, each defined as a 10,000 word publication (or cumulative equivalent), a major conference with write up, or teaching a course. In addition to the book for the Chairman, this output was equivalent to 43 10,000-word publications, to include chapters in books by the Naval Institute Press, RAND, and other academic presses, as well as articles in Foreign Affairs, National Interest, Orbis, Parameters, Journal of Strategic Security, Naval Institute Proceedings, Marine Corps Gazette and so forth.

CSR fellows also were directly involved in collaborations with ministries of defense in Japan (a report presented directly to Prime Minister Abe), Korea, Germany, Finland, France and with defense research institutes and senior officials in Singapore, Vietnam, the Philippines, and Australia; and in the Western Hemisphere (Americas Seminar Series), IISS London and Berlin, and at Chatham House, London.

In addition, researchers from the Center continued to support JPME by teaching and lecturing. All CSR senior fellows routinely lecture in the war colleges, and almost all either teach electives or lecture and teach in the core curriculum of the colleges. CSR has also honored by-name requests for senior fellows to make presentations at NWC, ES, CISA, NESA, CHDS, RCNSC, Capstone, JAWS, Naval War College, USMC Command and Staff College, USMC Expeditionary Warfare School, and the US Naval Academy. CSR fellows are also in high demand by allies and have lectured in the Australian Defence College, Baltic Staff College, Exeter Officer Training Corps, NATO Defense College, Norwegian Staff College, Royal Air Force Chief of Staff Annual Conference, Royal Swedish Academy of War and Staff College, Security and Strategy Institute, and University of Exeter.

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 (CSCMA) conducted an active program of research, outreach, and support for policymakers and joint education.

A major research focus was China's regional strategy and the tensions caused by Chinese efforts to expand control of disputed maritime territories in the East and South China Sea. CSCMA staff

published a variety of related research, including on claimant tactics in the South China Sea, Chinese overseas basing requirements, the Chinese military's role in the South China Sea, the U.S.-China maritime dynamic, and a study by National War College student CDR Christopher Sharman that successfully predicted an impending shift in China's maritime strategy to incorporate "far seas protection."

CSCMA Director, Dr. Phillip Saunders, also completed and distributed a book chapter on China's shift from a passive to proactive policy on maritime disputes; he co-authored this with a colleague from Japan's National Institute for Defense Studies. This research was briefed widely within the U.S. government (including at OSD, the Joint Staff, USPACOM, Seventh Fleet, ONI, and DIA) and presented at major international conferences. Additionally, previous CSCMA research on confidence-building measures contributed to successful DoD efforts to negotiate agreements with China on advance notification of major military activities and on rules of behavior for safe air and maritime encounters.

Other research highlights included the publication of an authoritative assessment of Chinese cruise missiles, the book *A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions*, and a study using primary sources to analyze the history of China's neutron bomb program. CSCMA staff also published a report on rival regionalisms in Asia and book chapters on U.S.-China military relations, the U.S. rebalance to Asia, and China's naval nationalism. In addition, Dr. Saunders completed work on manuscripts for two edited books on Chinese military influence on policy and on Chinese contingency planning.

CSCMA continued to work with various U.S. government, FFRDC, and international partners to expand its impact in a cost effective manner. Its ongoing collaboration with DIA became a model for other NDU research centers to emulate. 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 RAND. Books from past PLA conferences will be published by Stanford University Press, NDU Press, and RAND. The China Center also conducted a strategic dialogue with PLA NDU, participated in annual dialogues with Japanese and Korean counterparts, and supported senior U.S. military officers visiting China.

China Center staff supported the NDU educational mission by lecturing in NDU courses, facilitating NDU student travel to China and Asia, and providing advice and support for NDU students conducting research on China. Dr. Saunders conceived and executed a new "USPACOM Scholars" program with six NDU students researching topics of interest to U.S. Pacific Command. The student research, which was briefed to Deputy Commander LTG Anthony Crutchfield, "far exceeded expectations." The program has been renewed and expanded to include EUCOM, SOUTHCOM, NORTHCOM, and STRATCOM. This work demonstrates the synergy between CSCMA research, policy support, and outreach activities and its contributions to NDU's JPME mission.

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 its 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 engaged in more than 10,800 contact hours with students in JPME and leader development settings, a new high for the Center
- The Center taught three elective courses at NDU's Fort McNair campus and co-taught an elective at the Norfolk campus
- Faculty also lectured and led tabletop exercises in other courses at NDU and across the Professional Military Education (PME) system
- 14 NDU students completed the Weapons of Mass Destruction Studies Concentration
- The Program for Emerging Leaders welcomed its eighth class with 28 members from across DoD and the interagency community
- The Countering WMD Graduate Fellowship program matriculated its third cohort of 8 DoD professionals
- The Center held 6 WMD Spotlight seminars and conducted its 14th annual symposium, examining the changing landscape for countering WMD
- CSWMD joined the Deterrence and Assurance Academic Alliance (sponsored by U.S. Strategic Command), a consortium of colleges and universities committed to teaching deterrence-related content in the PME and civilian academic worlds
- The Center also collaborated with the Air Staff and U.S. Strategic Command to promote the adoption of strategic deterrence as a PME Special Area of Emphasis

CSWMD faculty undertook a number of major projects in direct support of sponsors and stakeholders, including:

- Developing and facilitating 2 senior leader tabletop exercises for U.S. Strategic Command's semi-annual Countering WMD Global Synchronization Conferences, featuring participation by several combatant command commanders
- Conducting a series of functional "deep dives" for the Office of the Under Secretary of Defense for Policy to support its development of a new DoD strategy toward Russia
- Collaborating with Lawrence Livermore National Laboratories to conduct a groundbreaking examination of the challenges of cross-domain deterrence
- Assisting the Defense Threat Reduction Agency in identifying gaps and seams in its preparedness to address WMD contingencies with Iran and North Korea
- Establishing a new relationship with the Air Staff/A10 to assist in addressing deterrence and escalation management challenges in conflicts with nuclear-armed adversaries

• CSWMD faculty publishing 7 articles on a range of WMD and education 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 information products in support of DOD decision-makers, as well as making a direct contribution to JPME that supports DoD in building an enduring culture of innovation.

CTNSP continued contributing to JPME with knowledge derived from research activities. Resident subject matter experts developed a new course and contributed to four existing courses with subject matter ranging from "Science and Technology for National Security," to a course on the "Legal, Policy & Ethical Issues" involved in using Social Media as a source of information for DoD operations.

CTNSP implemented a new program to inject Science & Technology (S&T) into the NDU community by hosting a series of presentations by the leaders of the 17 DoD S&T Communities of Interest (COI). 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, Joint Improvised-Threat Defeat Agency, multiple Combatant Commands, and other agencies. Examples of this support include:

- In response to a request from the Rapid Reaction Technology Office (RRTO) in the Office of the Deputy Assistant Secretary of Defense for Emerging Capability and Prototyping (DASD[EC&P]), CTNSP developed a one-week course on Prototyping and Experimentation to Improve Acquisition (PEIA) to assist RRTO in its efforts to evolve DoD into a more agile technology development organization and to meet the goals of the Department's Better Buying Power 3.0 (BBP 3.0) initiative
- CTNSP conducted an analytical study for USPACOM and USMC Forces Pacific (MARFORPAC) to increase the capacity of DoD to deploy air assets into austere locations, and to mount air operations from those locations
- In response to tasking from OSD Policy, CTNSP conducted a project to develop a framework for translational science improvements, built upon existing DoD technology transition initiatives, to improve how DoD moves corrosion management technology from the laboratory to the field
- CTNSP cyber policy experts responded to requests for publications and presentations from multiple offices in DoD and from many organizations across government, academia and the international community

CTNSP staff produced nine scholarly publications, including:

 Technology papers, such as an overview of `U.S. Government Cyber Activity' and a commentary on the `Policy Challenges of Accelerating Technological Change'

- Regional studies, such as a paper on `Unmanned Aerial Systems Overmatch in the Black Sea' and another on `ISIS's Projection of Power in Iraq and Syria'
- Strategic assessments, such as a `New Management Approach for the Department of the Navy's Research, Development, Test and Evaluation (RDT&E) Portfolio'

INSS implemented an extensive restructuring of CTNSP to build a team of appropriately qualified SMEs in parallel with development of new funding streams. The Center is now more flexible and cost-effective in responding to a greater variety of tasking from a broader range of sponsors. For example, CTNSP is now hosting the National Security Technology Accelerator (NSTA) program, an OSD-sponsored initiative to promote innovation and entrepreneurship through skills-based training, professional military education, and services.

National Defense University 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.

NDU Press published *Women on the Frontlines of Peace and Security*, which features a foreword by former Secretary of Defense Leon Panetta and former Secretary of State Hillary Rodham Clinton. The Press also published two strategic monographs, six policy briefs, and six occasional papers.

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 social media and virtual outreach. Its website has attracted 206,744 visitors this year, with visitors viewing 1,103,012 pages of defense and security-related content. NDU Press is also active in the social media realm, with 3,153 followers on Twitter, 2,697 "likes" on Facebook and 987 "pins" on Pinterest.

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 213 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 U.S. government interagency.

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, 114 spouses of Capstone Fellows attended the weeklong Executive Spouse Development Program. Curriculum included briefings on current regional issues, media relations, panel discussion with senior Service spouses, dialogue with the spouse of the Chairman of the Joint Chiefs of Staff, ethics training, and a professional biography counseling session.

PINNACLE

The weeklong PINNACLE course is for select two- and three-star officers 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, DoD, 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 25 Fellows in CY 2015.

KEYSTONE

The two-week KEYSTONE course provided 86 Command Senior Enlisted Leaders, each of whom was slated to fill joint billets, with an enhanced understanding of the joint military environment, the defense establishment, and the broader U.S. 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 organizations.

PUBLICATIONS

Conducting focused research and sharing these findings are key elements of creating and disseminating knowledge that strengthens the defense community and its ability to prepare for and respond to security threats. In addition to the 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 facing the nation, and enhanced strategic relationships via the following publications.

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

- Impunity: Countering Illicit Power in War and Transition (book)
- Beyond Convergence: World Without Order (book)
- Convergence: Illicit Networks and National Security in the Age of Globalization (book)
- Women on the Frontlines of Peace and Security (book)
- Lessons Encountered: Learning from the Long War (book)
- A Low-Visibility Force Multiplier: Assessing China's Cruise Missile Ambitions (book)
- Translating Special Operations Forces Tactics to Strategy (report)
- Sociocultural Analysis Requirements for the Defense Intelligence Enterprise (report)
- Bauman, Kris. "Getting to Iraqi Ownership of Iraqi Security." War on the Rocks (January 26, 2015).
- Bernstein, Paul I. "The Emerging Nuclear Landscape." Chap. 5, In *On Limited Nuclear War in the 21st Century*, edited by Larsen, Jeffrey Arthur and Kerry M. Kartchner, 101-128. Stanford, California: Stanford Security Studies, Stanford University Press, 2014.
- ———. "Post-Cold War U.S. Nuclear Strategy." Chap. 4, In *On Limited Nuclear War in the 21st Century*, edited by Larsen, Jeffrey Arthur and Kerry M. Kartchner, 80-98. Stanford, California: Stanford Security Studies, Stanford University Press, 2014.
- Campbell, Colton C. and David P. Auerswald, eds. *Congress and Civil-Military Relations*. Washington, DC: Georgetown University Press, 2015.
- Carus, W. Seth. "Book Review: The Soviet Biological Weapons Program." *Science & Global Security* 22, no. 2 (June 27, 2014): 160-162.
- Carus, W. Seth and Noreen A. Hynes. "Prioritizing the Defense Department's Response to Biological Warfare Threat Agents." *Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science* 12, no. 6 (November/December, 2014): 370-372.

- Chen, Jim Q. "Contextual Binding and Cyber Deception Detection." Greensboro, NC, MAICS, 25-26 April, 2015.
- ———. "A Framework for Cybersecurity Strategy Formation." *International Journal of Cyber Warfare and Terrorism (IJCWT)* 4, no. 3 (2014): 1-10.
- Chen, Jim Q. and Gilliam Duvall. "Detecting Deception in Cyber Conflict: A Strategic Approach." Kruger National Park, South Africa, Academic Conferences and Publishing International Limited, 24-25 March, 2015.
- ——. "On Operational-Level Cybersecurity Strategy Formation." *Journal of Information Warfare* 13, no. 3 (August 12, 2014): 79-87.
- Collins, Joseph J. "Defense in the Next Decade." Small Wars Journal (May 20, 2015): 1-5.
- ———. "Initial Planning and Execution in Afghanistan and Iraq." In *Lessons Encountered: Learning from the Long War*, edited by Hooker, Richard D. and Joseph J. Collins, 21-88, 2015.
- ———. "The Long War: Four Views." Small Wars Journal (January 05, 2015): 1-8.
- Converse, Bradley (2015). "Harmonizing Joint Fires and Information-Related Capabilities." IO Sphere (Fall 2015): 6-10 http://home.iosphere.org/?page_id=110613
- Corlett, James, A (2014). "It's Not So Easy Being Green." U.S. Naval Institute Proceedings, Vol 140, No 11 (Nov 2014): 55-61
 http://pqasb.pqarchiver.com/proceedings/results.html?st=basic&publications=ALL&type=current&QryTxt=james+corlett
- Dennis, Stephen (2015). "Surrounded by Doctrine...and Losing." Campaigning, (Spring 2015): 1-16
 http://jfsc.ndu.edu/Portals/72/Documents/JCWS/campaigning/2015 Campaigning Spring.
 pdf
- Ferguson, Adrienne and Ricardo Aguilera. "Budget Execution and Performance Integration." New Orleans, LA, American Society of Military Comptrollers, 25-29 May, 2015.
- Frost, Ellen L. *Rival Regionalisms and Regional Order: A Slow Crisis of Legitimacy*. NBR Special Report. 48th ed. Seattle, WA: National Bureau of Asian Research, 2014.
- Hammes, T. X. "Counterinsurgency." In *Counterterrorism: Bridging Operations and Theory*, edited by Bunker, Robert J. Bloomington, IN: iUniverse Com, 2015.
- ———. "Criminal Enterprises, Private Military Companies, Smart Robots and their Implications for National Sovereignty." In *Global Criminal and Sovereign Free Economies and the Demise of the Western Democracies*, edited by Bunker, Robert J. and Pamela Ligouri, 87-110, 2015.

- ———. "The Future of Warfare: Small, Many, Smart Vs. Few & Exquisite." War on the Rocks (July 16, 2014). ———. "Future War: Why Quantity Will Trump Quality." *The Diplomat* (November 20, 2014). ———. "Independent Long-Range Strike: A Failed Theory." War on the Rocks (June 8, 2015). ———. "Rethinking Deep Strike in the 21st Century." War on the Rocks (03 February, 2015): 02 March 2015. ———. Small, Smart and Many – Good News for Medium Powers....IF. Australian Army Land Power Forum. 2015. Hoffman, Francis G. "Enhancing American Strategic Competency." In Liberal Wars: Anglo-American Strategy, Ideology, and Practice, edited by Cromartie, Alan. London: Routledge, Taylor & Francis Group, 2015. ———. "Thinking about Future Conflict." Marine Corps Gazette 98, no. 11 (Nov, 2014): 10-12,14-16,18-19. Hooker, Richard D. American Landpower and the Two-War Construct. Arlington, VA: Institute of Land Warfare (Association of the United States Army), 2015. ———. The Grand Strategy of the United States. INSS Strategic Monograph. Washington, D. C.: National Defense University Press; Institute for National Strategic Studies, 2014. ———. "Operation Baltic Fortress, 2016: NATO Defends the Baltic States." The RUSI Journal 160, no. 3 (June/July, 2015): 26-36. ———. "Understanding U.S. Grand Strategy." Orbis 59, no. 3 (Summer, 2015): 317-330. Hooker, Richard D. and Joseph J. Collins. "From the Chairman." Joint Force Quarterly: JFQ no. 78 (Third Quarter, 2015): 2-13. ———. "Introduction." In Lessons Encountered: Learning from the Long War, edited by Hooker, Richard D. and Joseph J. Collins, 1-20, 2015.
- Hurley, John S., H. Mark McGibbon, and Roxanne Everetts. "Cyber Readiness: Are we there Yet,?" *International Journal of Cyber Warfare and Terrorism (IJCWT)* 4, no. 3 (2014): 11-26.

———. "Reflections on Lessons Encountered." In Lessons Encountered: Learning from the Long

War, edited by Hooker, Richard D. and Joseph J. Collins, 401-419, 2015.

Kardon, Isaac and Phillip C. Saunders. "Reconsidering the PLA as an Interest Group." Chap. 1, In *PLA Influence on China's National Security Policy-Making*, edited by Saunders, Phillip C. and Andrew Scobell, 33-57. Stanford, CA: Stanford University Press, 2015.

- Kasprzak, J. "Disaster Survival: Why some Live, Why some Die." Prague, Czech Republic, 27-28 May, 2015.
- Lamb, Christopher J. "Global SOF and Interagency Collaboration." *Journal of Strategic Security* 7, no. 2 (Summer, 2014): 7-20.
- ———. "National-Level Coordination and Implementation: How System Attributes Trumped Leadership." Chap. 3, In *Lessons Encountered: Learning from the Long War*, edited by Hooker, Richard D. and Joseph J. Collins, 165-276. Washington, D.C: National Defense University Press, 2015.
- ———. "Pentagon Strategies." Chap. 5, In *Challenges in U.S. National Security Policy : a Festschrift Honoring Edward L. (Ted) Warner*, edited by Ochmanek, David A., Michael Sulmeyer and Edward L. Warner, 59-80. Santa Monica: Rand, 2014.
- Lamb, Christopher J. and Brittany Porro. "Next Steps for Transforming Education at National Defense University." *JFQ: Joint Force Quarterly* First Quarter, no. 76 (2015): 40-47.
- Lynch III, Thomas F. "After ISIS: Fully Reappraising U.S. Policy in Afghanistan." *The Washington Quarterly* 38, no. 2 (04/03, 2015): 119-144.
- ———. "Post-2014 Afghanistan & the Looming Consequences of Strategic Misappreciation." *Orbis* 59, no. 2 (2015): 181-198.
- ———. "Sources of Terrorism and Rational Counters." *TRENDS Research and Analysis Monograph* (January 18, 2015).
- McCauley, Daniel. "A Competence-Based Approach to Joint Professional Military Education (JPME): Educating the Joint Force for 2020 and Beyond." *Canadian Military Journal* 15, no. 1 (January 11, 2015).
- ———. "An Institution for the Profession of Arms and Thought." *Campaigning* (Fall, 2014): 4-8.
- ——. "A Competence-Based Approach to Joint Professional Military Education (JPME): Educating the Joint Force for 2020 and Beyond." Canadian Military Journal, 15(1): 53-57 http://www.journal.forces.gc.ca/vol15/no1/page53-eng.asp
- ———. "Failing with Single-Point Solutions: Systems Thinking for National Security." Small Wars Journal, 10(4): online http://smallwarsjournal.com/jrnl/art/failing-with-single-point-solutions-systems-thinking-for-national-security

- ——. "An Institution for the Profession of Arms and Thought." Campaigning (Fall 2014): 4-8
 http://jfsc.ndu.edu/portals/72/documents/JCWS/campaigning/2014 Campaigning Fall.p
 df
- ———. "Joint Professional Military Education: Anticipating at the Speed of the Environment." Small Wars Journal, (Apr 2014): online http://smallwarsjournal.com/jrnl/art/joint-professional-military-education
- ———. "Teaching Joint Leaders to Recognize and Manage Change." Small Wars Journal, (Jun 2014): online http://smallwarsjournal.com/jrnl/art/teaching-joint-leaders-to-recognize-and-manage-change
- ———. "U.S. Iran Rapprochement: A Counterintuitive Alternative to Thirty-Five Years of Distrust." Small Wars Journal, (Jan 2014): online http://smallwarsjournal.com/jrnl/art/us-iran-rapprochement
- McFate, Sean. *The Modern Mercenary: Private Armies and what they Mean for World Order.* New York, NY: Oxford University Press, 2015.
- Moodie, Amanda. "In Good Health?" *The Nonproliferation Review* 22, no. 1 (01/02, 2015): 71-82.
- Muller, Kurt E. "Lessons from the Decade of War." In 2014-2015 Civil Affairs Issue Papers: The Future of Civil Affairs., edited by Holshek, Christopher and John C. Church, 9-22. Carlisle Barracks, PA: United States Army War College Press, 2015.
- Nang, Roberto N. "US Aid in the Time of Ebola -- Liberia and Nigeria." *Annals of Global Health* 81, no. 1 (January-February, 2015): 164.
- Nang, Roberto N., Felicia Monahan, Glendon B. Diehl, and Daniel French. "A Qualitative Content Analysis of Global Health Engagements in Peacekeeping and Stability Operations Institute's Stability Operations Lessons Learned and Information Management System." *Military Medicine* 180, no. 4 (04, 2015): 409-418.
- Page, Jacqueline. "The "Home Game" Countering Violent Extremism within NATO." *NATO Research Paper* no. 104 (September, 2014): 1-12.
- ———. "Foreign Fighters: A Security Threat at Home?" *Fletcher Forum of World Affairs* (February 18, 2015).
- Pavelec, Sterling (2015). Contributor to *Cyber Warfare* by Paul Springer (ABC-Clio, 2015) http://www.amazon.com/Cyber-Warfare-Reference-Handbook-Contemporary-ebook/dp/B00TIXVM2K/ref=sr 1 1?ie=UTF8&qid=1446224938&sr=8-1&keywords=cyber+warfare+springer

- Peters, Robert J. "The WMD Challenges Posed by a Collapse of North Korea." *38north.Org* (April 14, 2015).
- Pokalova, Elena. *Chechnya's Terrorist Network: The Evolution of Terrorism in Russia's North Caucasus*. PSI Guides to Terrorists, Insurgents, and Armed Groups. Santa Barbara: Praeger, 2015.
- Posey, M (2015). "Project the False and Protect the Real." Campaigning (Spring 2015): 17-21 http://jfsc.ndu.edu/Portals/72/Documents/JCWS/campaigning/2015 Campaigning Spring. pdf
- Redden, Mark E. and Phillip C. Saunders. "The U.S.-China Maritime Dynamic: Catalyst for Cooperation and Confrontation?" In *Beyond the Wall: Chinese Far Seas Operations*, edited by Dutton, Peter A. and Ryan D. Martinson, 95-116. Newport, RI: China Maritime Studies Institute, 2015.
- Rogers, Stephen. (2015). "Leadership Trust: A Leadership Lesson from Twelve Years at War." Army War College Review, Vol. 1, No. 1 (Feb 2015): 1-10 http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=1271
- Roitsch, Paul, E. (2015), "Capacity and Competence: Full-Spectrum Counterinsurgency in the Horn of Africa." Small Wars and Insurgencies, Vol 26, Issue 3: 497-517 http://www.tandfonline.com/doi/full/10.1080/09592318.2013.866425
- Rostow, Nicholas. "Consequences." Naval War College Review 67, no. 4 (Autumn, 2014): 41-64.
- ———. "Targeted Killing of Terrorists." *Joint Force Quarterly: JFQ* no. 74 (Third Quarter, 2014): 98-101.
- ———. "Wherefore Grand Strategy and International Law?" Chap. 42, In *A Revolution in the International Rule of Law: Essays in Honor of Don Wallace, Jr.*, edited by Sabahi, Borzu, Nicholas J. Birch, Ian A. Laird and José Antonio Rivas. Huntington, NY: JurisNet LLC, 2014.
- Sandvik, Asle M., Anita L. Hansen, Sigurd W. Hystad, Bjørn Helge Johnsen, and Paul T. Bartone. "Psychopathy, Anxiety, and Resiliency Psychological Hardiness as a Mediator of the psychopathy–anxiety Relationship in a Prison Setting." *Personality and Individual Differences* 72, (1, 2015): 30-34.
- Saunders, Phillip C. "China's Rising Power, the U.S. Rebalance to Asia, and Implications for U.S.-China Relations." In *China's Power and Asian Security*, edited by Li, Mingjiang and Kalyan M. Kemburi, 85-105. Abingdon, Oxon; New York, NY: Routledge, 2014.
- ——. "China's Rising Power, the U.S. Rebalance to Asia, and Implications for U.S.-China Relations*." *Issues and Studies* 50, no. 3 (September, 2014): 19-55.

- ———. "China's Role in Asia: Attractive Or Assertive?" Chap. 6, In *International Relations of Asia*, edited by Shambaugh, David L. and Michael B. Yahuda. Second ed., 147-172. Lanham, MD: Roman and Littlefield, 2014.
- ———. "The Role of the Chinese Military in the South China Sea." In *Perspectives on the South China Sea: Diplomatic, Legal, and Security Dimensions of the Dispute*, edited by Hiebert, Murray, Phuong Nguyen and Gregory B. Poling, 127-135. Washington, DC and Lanham, MD: Center for Strategic and International Studies and Rowman & Littlefield, 2014.
- Saunders, Phillip C. and Andrew Scobell. "Introduction: PLA Influence on China's National Security Policy-Making." In *PLA Influence on China's National Security Policy-Making*, edited by Saunders, Phillip C. and Andrew Scobell, 1-30. Stanford, CA: Stanford University Press, 2015.
- ———. *PLA Influence on China's National Security Policy-Making*. Stanford, CA: Stanford University Press, 2015.
- Sharman, Christopher H. *China Moves Out: Stepping Stones Toward a New Maritime Strategy*. China Strategic Perspectives., edited by Saunders, Phillip C. Vol. 9. Washington, D. C.: National Defense University Press, 2015.
- Thacker, Russell S. and Paul W. Lambert. "Low Cost, High Returns: Getting More from International Partnerships." *JFQ: Joint Force Quarterly* no. 75 (4th Quarter, 2014): 70-76.
- Thompson, Peter G. *Armed Groups: The 21st Century Threat*. Lanham: Rowman & Littlefield, 2014.
- ———. "Economic Interdependence and Security on the Korean Peninsula: The Impact of North Korean Special Economic Zones." *Asian Security* 11, no. 1 (01/02, 2015): 52-71.
- Van Oudenaren, John S. "China's Uncertain Future," *American Interest, the* (March 19, 2015): 06 November 2015.
- ———. "Did Beijing Back the Hong Kong Triads?" *Realclearworld* (October 10, 2014): 06 November 2015.
- ———. "Enduring Menace: The Triad Societies of Southeast China." *Asian Affairs: An American Review* 41, no. 3 (July-September, 2014): 127-153.
- Watkins, Lanier and John S. Hurley. "Cyber Maturity as Measured by Scientific Risk-Based Metrics." Kruger National Park, South Africa, Academic Conferences and Publishing International Limited, 24-25 March, 2015.
- Whited, Catrina. (2014). Embedded Librarian in a Military Distance Education Program. In E. Leonard, & E. McCaffrey (Eds.), Virtually Embedded: The Librarian in an Online

- Environment (1st ed., pp. 53-66). Chicago: Association of College and Research Libraries. http://iucat.iu.edu/iuk/13492369
- Wong, Janet, Daniel Fong, Anna Choi, Claudia Chan, Agnes Tiwari, Ko Chan, Vincent Lai, T. K. Logan, and Paul T. Bartone. "Transcultural and Psychometric Validation of the Dispositional Resilience Scale (DRS-15) in Chinese Adult Women." *Quality of Life Research* 23, no. 9 (11, 2014): 2489-2494.
- Yung, Christopher D. "Chinese Overseas Basing Requirements for the Twenty First Century." In *Beyond the Wall: Chinese Far Seas Operations*, edited by Dutton, Peter A. and Ryan D. Martinson. Vol. 13, 47-61. Newport, RI: China Maritime Studies Institute, 2015.
- ——. "Continuity and Change in Sino-U.S. Military-to-Military Relations." In *Conflict and Cooperation in Sino-US Relations: Change and Continuity, Causes and Cures*, edited by Blanchard, Jean-Marc F. and Simon Shen, 204-224. New York: Routledge, 2015.
- ———. "The PLA Navy Lobby and its Influence Over China's Maritime Sovereignty Policies." Chap. 10, In *PLA Influence on China's National Security Policy-Making*, edited by Saunders, Phillip C. and Andrew Scobell, 274-299. Stanford, CA: Stanford University Press, 2015.
- Yung, Christopher D., Ross Rustici, Scott Devary, and Jenny Lin. *Not an Idea we have to Shun': Chinese Overseas Basing Requirements in the Twenty First Century*. China Strategic Perspectives., edited by Saunders, Phillip C. 2014.

EDUCATIONAL AND INSTITUTIONAL ENABLERS

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 recognized by the Department of Defense through 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.

Distinguished Leader Program

NDU's Distinguished Leader Program (DLP) 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.

In the DLP, guest lecturers discuss with students a wide variety of timely issues related to national security and foreign policy issues in an unpredictable and complex world. Based on their 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 DLP program was designed to promote three common outcomes for student learning:

- 1) Creative and Critical Thinking: Comprehension leading 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.
- 2) Strategic Leadership: Comprehension leading 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)
- 3) Strategic Aspects of Joint Professional Military Education (JPME): Comprehension leading 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 environment to encourage candor in both the speakers' remarks and their question-and-answer engagements with the students.

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

- Mr. Toomas Hendrik Ilves, President, Republic of Estonia
- ADM William McRaven, USN, Commander, USSOCOM
- Mr. Steve Forbes, Chairman and CEO Forbes Magazine
- Command Sergeant Major Chris Faris, USA, USSOCOM
- ADM Samuel Locklear III, USN, Commander, USPACOM
- Gen Peter Pace, USMC (Ret), Former CJCS
- GEN Colin Powell, USA (Ret), Former CJCS and Secretary of State
- AMB Ryozo Kato, Former Japanese Ambassador to the United States
- Gen Mark Welsh, USAF, Chief of Staff of the Air Force
- Hon. Ray Mabus, Secretary of the Navy
- Gen William Shelton, USAF, Commander, USAF Space Command
- ADM Jonathan Greenert, USN, Chief of Naval Operations
- Gen James Amos, USMC, Commandant, USMC

Distinguished speakers projected for next academic year include:

- GEN Martin Dempsey, USA (ret), (then) Chairman, Joint Chiefs of Staff
- Gen. Palomeros (FR), NATO Supreme Allies Commander Transformation
- Dr. Dick Kohn, Professor, University of North Carolina Chapel Hill
- Father Bryan Hehir, Professor, Harvard University

- Dr. Clinton Longnecker, Professor, University of Toledo
- Panel: AMB Ron Neumann, ADM Dennis Blair, USN (Ret) and ADM Eric Olson, USN (Ret)
- Mr. Tom Brokaw, Former Managing Editor, NBC Nightly News
- Mr. Newt Gingrich, Former Speaker of the House of Representatives
- Panel: Congressman Randy Forbes (VA) and Hon. Michele Flournoy
- GEN Joseph Votel, USA, Commander, US Special Operations Command
- Hon. John Brennan, Director, Central Intelligence Agency
- ADM James Stavridis, USN (Ret), Former NATO Supreme Allied Commander Europe
- AMB Bill Burns, Former Ambassador to Russia and Jordan
- Gen Joseph Dunford, USMC, Chairman, Joint Chiefs of Staff

Center for Applied Strategic Learning (CASL)

CASL provided significant support to NDU students' JPME, furthered the overall advancement of U.S. defense policy goals, and facilitated a better understanding of national security issues for DoD, interagency, and select academic institutions.

CASL also enabled NDU's mission to support the joint warfighter by delivering experiential education through the development of challenging exercises tailored to meet the student curricula requirements of the NDU colleges.

CASL supported more than 2,300 NDU students by developing over 75 strategic and high-operational exercises and classroom events, which led to an enhanced understanding of current and emerging national security issues. The center also supported approximately 15 Joint Staff, Office of the Secretary of Defense through its National Security Policy Analysis Forum program and other exercises, enhancing the national security dialogue within DoD, across the interagency environment, and internationally with coalition partners and allies.

High-profile exercise support included NDU-P Special Project/the Joint Land, Aerospace and Sea Simulation (JLASS) Exercise. The JLASS Exercise, educating more than 140 students from DoD's senior service colleges. The center also participated in numerous gaming forums, symposia, and exercises at various U.S. academic institutions, and taught an elective course on the art of facilitation. CASL personnel also presented at an international symposium on gaming with and for the intelligence community. These opportunities allowed CASL to explore innovative approaches to national security education, as well as network with national security experts and students interested in national security studies.

Under the auspices of CASL, NDU has been designated as the JS J-7 development test site for the JLVC-2020 suite of Joint Training Modeling and Simulation Applications. CASL is working closely to support the JS J-7 Environmental Application Development Division, Joint Training Directorate in their development of the future suite of Joint Application, supporting the Joint

Force Development vision of joint education, sustained through joint training and application during joint operations.

Conflict Records Research Center (CRRC)

During the previous academic year, the CRRC was maintained in caretaker status while awaiting a determination on its future. The center was subsequently shuttered this academic year, with the collection of records and research database pending transfer to another institution.

Facilities

NDU's Facilities Directorate aligns the core capabilities of supply, engineering, installation support, contracted support and logistics services to support the missions of the university with the effective and efficient use of human and capital resources. Accomplishments this year include:

- Renovations for Marshall Hall and Eisenhower Hall: The directorate completed the audiovisual modernization and renovations of the McNair Room and the Marshall Hall 155 conference space complex. This project will significantly increase the capabilities of both areas to support university events and international visits. In addition, energy efficient lighting improvements that will create an atmosphere more conducive to learning were completed in numerous assembly spaces throughout Eisenhower Hall.
- Roosevelt Hall: The directorate restored Roosevelt Hall's historic east, west and northfacing windows, correcting long standing water leaks that plagued the facility. The directorate also improved student support by repairing and renovating the women's shower and restroom.
- Eisenhower Hall: The directorate completed the replacement of the cooling towers and pumps that support the building's HVAC system. Additionally, the primary electrical distribution wiring and substation were modernized and replaced. Both of these improvements will dramatically improve the reliability of the building's support infrastructure.

On-going and future initiatives include:

Library Improvements: The directorate implemented the first projects from the 2013
 Library study. To improve student interaction with the library staff, the circulation desks at
 both libraries will be replaced. The McNair library project started in May 2015 and the
 Norfolk library project will start in September 2015. Both projects are anticipated to be
 completed by the end of 2015.

- Eisenhower Hall HVAC improvements: An Energy Savings contract was awarded to replace
 the existing boiler with more efficient units, with completion by November 2015. The
 reliability of the heating system that supports the educational mission in the building will be
 dramatically improved. A contract will be awarded by September 2015, to design the
 renovation of the Vessey Room and the front entrance lobby of the building.
- Electrical infrastructure improvements at JFSC: The engineering study and design are under way to correct deficiencies in JFSC's overstrained power system to eliminate classroom power disruptions and equipment damage. The final report is due in September 2015. A contract to repair the identified problems is projected for early 2016.
- NDU classroom standards and IRMC classroom renovation: The contract to synthesize education and technology requirements into an NDU-wide standard neared completion this year. A design/build contract proposal is being developed to prototype the standards by renovating four existing IRMC classrooms. Five new classrooms and a student lounge will be constructed, which will demonstrate the new space, educational technology, and IT infrastructure standards. The construction contract is expected to be awarded by the end of FY15 and to be completed in one year.

Continuity of Operations: Development of NDU's Continuity of Operations Plan (COOP) made good progress. The Northern Virginia Community College (NVCC) is working with the COOP planners to develop a Memorandum of Understanding for NVCC to be the alternate site for NDU. A one-week test of this concept will be conducted by one college in October 2015. Lessons learned from the test will be incorporated and the final comprehensive and coordinated plan will be completed in 2016.

Health and Fitness

The Health and Fitness (HF) directorate supports the university's strategic goals by leveraging NDU's unique DoD-wide JPME platform to enhance Joint Total Fitness through health, fitness, and wellness interventions that optimize performance across the Joint Total Force structure.

The directorate's intent is to help strategic leaders use the full range of their capacities to thrive in the most difficult circumstances and to emerge from stressful periods stronger, healthier, and eager for the next challenge. In a dynamic strategic leadership environment, performing consistently at a high level is both more difficult and more necessary than ever. High performance depends as much on how people renew and recover energy as on how they expend it, on how they manage their lives as much as on how they manage their work.

The Health and Fitness directorate pursued the following goals:

 Assess individuals through a comprehensive Executive Health Assessment in which they undergo VO2 testing, body composition analysis, strength and flexibility testing, cholesterol

- studies, blood pressure monitoring, and health and lifestyle questionnaires to identify potential health risks and provide risk-reduction strategies
- Provide wellness intervention and prevention initiatives that encompass nutrition, tobacco cessation, exercise prescription, physical therapy, vaccination support, and mental wellness
- Educate senior leaders on their own wellness, which in turn will help promote the wellness of the forces they lead

This year, the HF directorate:

- Delivered a comprehensive health and wellness awareness program featuring sound nutrition, daily activity, and preventive medicine for over 1,400 NDU students, faculty, and staff; this includes more than 100 international students representing 70 countries
- Provided a physical therapist and athletic trainer who performed 1,363 on-site appointments, greatly reducing time away from work and classes
- Provided a Registered Dietician provided nutrition counseling and ongoing support to approximately 542 students, faculty, and staff
- Developed over 300 personal fitness programs to help lower modifiable risk factors of heart disease, including incorporating a six-week Great Pedometer Challenge program with more than 600 participants
- Performed over 270 executive health screenings, identifying two personnel with abnormal findings that required cardiology evaluation
- Performed 386 cholesterol/glucose screenings
- Organized 566 flu vaccinations and over 600 travel medicine vaccinations
- Supported 12 international CAPSTONE and 15 domestic International Student Management Office trips with qualified medical expertise
- Performed school physicals for all children of the International Fellows
- Provided medical coverage for all NDU functions
- Hosted 3 blood drives in support of the Armed Services Blood Program, collecting 78 units of blood to positively affect 234 lives

The directorate hosted its second annual Wellness Day, in which students and spouses came together with the rest of the NDU Community to learn about resiliency, and take advantage of networking opportunities and wellness-related activities across campus. Each of the activities supported the directorate's wellness platform: Body, Mind, and Spirit.

The brown bag lunchtime lectures included: Spiritual Fitness classes treating spiritual and ethical dimensions of strategic leader competencies and skills, behavioral health classes, breast cancer awareness, and biking in the DC area. Group classes included: Combat jujutsu, Zumba, exercise, and CPR.

In December, HF received a gift from Humana, through the NDU Foundation, for the renovation and development of the Health and Fitness space. The project resulted in the construction of five individual offices, one reception area and a "lab area" for Executive Health Assessments. The space has greatly improved organizational flow and allows for privacy for all of Health Fitness customers. NDU Facilities, Logistics, IT, Audio-visual, and the Eisenhower School also supported the renovation, which was completed in less than two months with minimal disruption of key services.

With offices in each of the buildings, key strengths of the Health and Fitness Directorate lies in the highly qualified providers, the proximity of the staff to the students, and also the staff's passion to discuss and fulfill the health, wellness, and fitness needs of the NDU community. HF provides senior leaders of military organizations and federal agencies with the capability to maintain optimum health and fitness in a sustained, operational environment.

Human Resources

Working in close collaboration with stakeholders and partners, the Human Resources directorate (HRD) provides customer-focused, professional civilian and military human resources (HR), manpower analysis and management, and selected administrative services to support NDU leaders, managers, faculty, staff, and students.

The 20-person HRD staff (14 civilian and 6 military) supports a workforce of more than 700 employees, 3 Regional Centers co-located with NDU, and several thousand military students annually. They provide full employee support to the civilian Title 5 General Schedule (GS) and Title 10 Administratively Determined (AD) workforce, from recruiting and retention, to training and workforce management. The directorate's military staff serve as liaisons with military Service personnel providers to ensure a full range of support to military personnel assigned to NDU as students, faculty, and staff.

Prominent manpower and personnel challenges included:

- Budget restrictions: Led to intense coordination, synchronization, prioritization and onboard management based on the criticality of each position
- Furlough and Shutdown Planning: In September, HRD was deeply engaged in planning for a
 potential government shutdown, preparing letters for each employee to outline their rights
 IAW with OPM and DoD guidance
- Turn-over within HRD was higher than normal, with staff in 25% of the positions changing

Major human capital initiatives and accomplishments included:

- Human Capital Council (HCC): The NDU HCC met monthly with component representatives to refine talent management procedures, and prioritize HR-related policy issues
- Workforce Shaping: Ms. Leigh Ann Massey led the way in drafting NDU's Voluntary Early Retirement Act (VERA)/Voluntary Separation Incentive Payment (VSIP) workforce shaping policy, as NDU seeks to gain efficiencies at all levels
- Recruiting and Retention Tools: Ms. Jessica McDaniels led the NDU-wide effort to develop and implement a recruiting, retention, and relocation (3R's) policy that is compliant with DoD and OPM guidance, and also incorporates transparent, repeatable processes
- Talent Management (TM): HRD refined TM procedures and policies; worked with components to conduct a holistic work force analysis and a TM review of military personnel, Title V (GS) personnel, Title X (AD) personnel, and interagency faculty to effectively and efficiently execute the NDU strategic plan relative to recruiting, retaining, and developing the best faculty and staff that NDU can afford
- Senior Leader Acquisition: HRD provided professional advice and assistance with the successful recruitment and onboarding of senior positions including the ISMO Director, Capstone Senior Director, and the military to civilian conversion for the Chief Information Officer (CIO)
- Time Keeping: NDU transitioned to a new time keeping system that is more compliant with accounting and system requirements; Ms. Geri Wood led the NDU-wide effort to plan and conduct the transition, including training the workforce on the new system
- Recruiting Pilot: Working with the Director of Research, HRD successfully planned and executed a pilot program that used a novel approach to recruiting specialized talent required for the NATO European Practitioner and Researcher position
- Performance Management: HRD laid the foundation for the successful transition to the new DoD Performance Management System, projected for April 2016

The International Student Management Office (ISMO)

The International Student Management Office (ISMO) had another productive and eventful year, hosting more than 200 international students from over 70 countries. This was one of the most geographically diverse classes in NDU's history. In addition, ISMO experienced significant change in office leadership, with the hiring of a new director and several other key positions, as well as the structural realignment of the office, which placed greater emphasis on academic programs.

As in previous years, NDU's International Fellows (IFs) were fully engaged across campus, immersed in their academic programs and visible at special events, guest lectures, international delegations, intramural sports, and family programs. ISMO staff provided ongoing support for

housing, medical, financial, cultural, and personal issues; this support provided a sound foundation for Ifs, enabling them to focus on their education.

ISMO staff members organized numerous events, such as outings to sporting events and international food festivals, to increase networking opportunities between the IFs and their American classmates, and to enhance their understanding of American culture and society. Through the generous assistance of the NDU Foundation, the Spouses International Cultural Exchange (SpICE) club and the English for Speakers of Other Languages (ESOL) groups encouraged family members—spouses and children—to make friends and benefit from mutual support. And through the Community Sponsor Program, ISMO promoted cross-cultural exchange between the IFs and local residents of the DC and Norfolk communities.

This year, ISMO focused its effort to further integrate its American Studies classroom program and Field Studies program. Field studies expose IFs to the diversity of the U.S., its people, culture, institutions, and values. This year's field studies included visits as diverse as an unincorporated township in Montana, a homestay in rural Tennessee, the United Nations in New York, Facebook headquarters in San Francisco, the Islamic Center of America in Michigan, and for the first time a visit to New Orleans, which offered a unique case study in the role of government and private institutions in response to Hurricane Katrina. The Fellows learned about our education system through visits at public and private schools and universities. They also learned about our judicial system through visits with court officers, law enforcement agencies, and a state prison. Fellows learned about our healthcare system through visits to hospitals and healthcare providers. They also studied the landscape of human rights in America, including civil rights, Native American rights, ethnic and gender diversity, poverty, and immigration.

ISMO's alumni programs helped ensure former students stayed connected to NDU and to each other long after graduation. ISMO staff members engaged an alumni base of more than 2,000 graduates through online networking and social media. In June, more than 70 NDU alumni gathered in Cartagena, Colombia for ISMO's annual Joint Security Seminar.

NDU also continued its tradition of honoring international alumni who have risen to positions of prominence by inducting three graduates into the NDU International Hall of Fame—one chief of defense, one chief of service, and one government foreign minister. Given the fundamental imperative of the alumni program—joint security cooperation—these events are a great source of pride for everyone who contributes to NDU's global mission, and ensure a vibrant and thriving network of security practitioners that spans the globe.

NDU Libraries

During this academic year, the NDU Libraries focused on three major priorities: Instruction and Research Support, Virtual Library, and Learning & Information Commons. These priorities, along with progress in realizing a common vision across the university, allowed the Libraries to

provide state-of-the-art, efficient, and cost-effective services to all members of the NDU Community.

Instruction and Research Support

This program focused on providing in-depth instruction to help prepare students in all NDU colleges to effectively conduct academic research. Students received training dedicated to helping them locate, evaluate, select, and use information, data, and scholarship effectively. The Libraries also developed a program that provided the same level of instructional support to all students, whether in residence or in distance programs, and which can be taught in one-on-one sessions or to entire seminars, either in person or via synchronous and asynchronous distance sessions. In addition, more than 400 students, faculty, and staff attended the optional brown bag lunchtime classes, which offered highly focused instruction on narrow topics, such as Global Terrorism research and Advanced Search Tips. Both the academic research and the brown bag classes were very well received, with each earning an overall 98% satisfaction rating.

The Libraries' research support program received a major boost in June, with the introduction of a new ask-a-librarian online reference service. This new cloud-based service fostered collaboration and increased customer responsiveness by enabling all reference librarians to access incoming requests and provide point-of-need service, regardless of student or faculty member location. In addition, the software provided detailed metrics to provide insight into reference service requirements and enable evidence-based staffing to ensure consistent and high-quality services for all for all students, faculty, and staff.

Virtual Library

The most notable improvement for the Virtual Library was the release of an integrated NDU Libraries Website in time for the start of the new academic year. Library staff collaborated on the design of the website, which marked the first time that the NDU Libraries shared a single common access point for all customers. The website features ready access to Library resources and services in a simple, streamlined interface. Additionally, with one interface to manage, Libraries staff are now able to maintain the site more efficiently, freeing staff time for direct patron support.

The Libraries introduced a new interface for the Library catalog in early 2015. This interface enhances the user experience by providing book reviews, cover art, and the ability to text lists directly to mobile devices. An upgraded catalog for the Libraries' classified collection was introduced, resulting in improved discoverability of items in the classified Libraries.

As use of the Virtual Library increases, so does the demand for content. The Libraries have introduced demand-driven acquisition for ebooks and substantively increased the number of journals and ebooks that can be accessed 24/7 through the Virtual Library.

Learning & Information Commons

Despite the popularity of the Virtual Library, demand remains high for the physical Library and its services. The Libraries on both campuses engaged in activities to maximize usability of Library space and facilitate academic collaboration and research. Plans are underway to redo the entrances to both Libraries to create more-engaging and user-friendly entries. Dedicated space was created to house academic support activities, such as a writing coach and BlackBoard specialist in Norfolk, and a service desk for the Academic Technology Support team in Washington. The Classified Documents Center in Washington hosted classes, workshops, and briefings for more than 2,300 participants and served as an invaluable resource for an Operation Iraqi Freedom study commissioned by the Army Chief of Staff.

Visual learning was enhanced through major exhibitions in Washington, including the GEN Paul Cerjan Conference Center in Marshall Hall and the AMB Brent Scowcroft Room in Roosevelt Hall. In Norfolk, the Libraries participated in a project to refresh artwork and displays around the campus. Special Collections coordinated the donation of outgoing CJCS GEN Martin Dempsey's collections to the University, as well as substantive additions to former-CJCS GEN Colin Powell's collection.

The 150th anniversary re-enactment of the trial of the Lincoln Conspirators in June was a highlight of the year. The Confederation of Union Generals, a group of Civil War re-enactors from Gettysburg, gathered at Grant Hall's third floor courtroom to re-enact the 1865 military tribunal of the conspirators in the assassination of President Lincoln. The library coordinated the acquisition of additional furniture and facsimile newspapers, books, and other documents to lend authenticity to the room. Partnering with Joint Base Myer-Henderson Hall, the library supported three public open house sessions in the courtroom.

The Libraries also completed centralization of acquisitions and cataloging to enhance efficiency. As a result, all purchasing and cataloging of electronic and physical materials for both libraries is now managed centrally in Washington. This project eliminated duplication of effort, standardized processes, and aligned Norfolk staff members, so they can focus on patron services and instruction.