National Aeronautics and Space Administration

Annual Report
Fiscal Year 2014

Academy of Program/Project & Engineering Leadership (APPEL)

appel.nasa.gov

APPEL academy of program/project & engineering leadership

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About the Academy

The Academy of Program/Project & Engineering Leadership (APPEL) is NASA's internal resource for project management and systems engineering training. APPEL promotes individual and team learning through its four business lines: curriculum, hands-on development, strategic communications, and training and support.

For Fiscal Year (FY) 2014, the Academy continued to promote learning through its world-class curriculum and development programs while innovating new resources to enhance APPEL's value to NASA's technical workforce. Distinctive new courses, novel interactive materials, and customer engagement were focal points for the year, strengthening relationships with key stakeholders. The office of the Chief Knowledge Officer (CKO) continued to define its role as a knowledge resource across the agency, fostering knowledge management while offering a diverse range of knowledge-sharing opportunities to reinforce the identity of NASA as a learning organization.

Mission

APPEL supports NASA's mission by promoting learning for program/project managers and systems engineers on three levels: individual, team, and organizational. Through its wide range of courses, resources, and development initiatives, it enhances and refines critical job skills, offers hands-on learning experiences, and supplements formal educational programs. In addition, the Academy creates opportunities for project management collaboration through research and exchange with universities, government agencies, professional associations, and industry partners. Together with the CKO, APPEL seeks to support the agency's technical workforce and continue enabling mission success at NASA.

Goals

- Provide a common frame of reference for NASA's technical workforce.
- Refine and enhance critical job skills.
- Support program, project, and systems engineering teams.
- Promote learning across the agency.
- Supplement formal education programs.

Leadership Team

Mr. Roger Forsgren

Mr. Forsgren is the Director of APPEL, with responsibility for the development of program and project leaders within NASA. He also oversees the conception and implementation of new training courses and hands-on development programs for project managers and systems engineers at NASA.

Dr. Edward Hoffman

As the first NASA Chief Knowledge Officer (CKO), Dr. Hoffman is responsible for the agency's knowledge policy as well as initiatives that integrate knowledge services across NASA's programs, projects, and centers. In addition, he is an instructor for APPEL's International Project Management course.

Mr. Stephen Angelillo

As the APPEL Deputy Director, Mr. Angelillo is a member of the senior management team and is responsible for the Academy's strategic communications with NASA's technical workforce, academia, government, and commercial outreach through multiple media outlets as well as website management and oversight for APPEL and CKO. He also oversees daily operations for curriculum and training support, liaisons with Center Training Officers and APPEL POCs, and manages the Academy Center for Excellence (ACE), APPEL's facility at Kennedy Space Center (KSC).

Message from the Director:

Welcome to the Academy of Program, Project and Engineering Leadership's Annual Report. FY 2014 was an exciting year for APPEL and the NASA technical workforce. Once again, our agency earned recognition as the "Best Place to Work in the Federal Government." One component of this prestigious award was NASA's ranking as number one in the government for training and development. Now, with 2014 behind us and as we go to press with this annual review, we've learned that APPEL has been recognized again: the Project Management Institute recently named APPEL the "Best Project Management Academy in the World" for the third time in a row. These distinctions are not only a reflection of the passion of our APPEL team, but also of our stakeholders throughout NASA who expect excellence.

Your continued support, engagement, and feedback guided us in enhancing many of the tools we provide in order to better serve the project management and systems engineering communities within our agency. Furthermore, the valuable insight we received from our stakeholders helped us refine our offerings, ensuring our programs and services fully supported the workforce in developing the skills and knowledge they need to advance mission success at NASA.

– Roger Forsgren
APPEL Director

Message from the Chief Knowledge Officer:

Throughout FY 2014, we continued to build NASA's knowledge management capability. Our growing knowledge community, now represented at each center, serves as a network to ensure that the agency's practitioners have access to critical knowledge when they need it—now and in the future—to increase the likelihood of mission success. We appreciate the continued support of everyone in the knowledge management community who contributed and helped us identify, capture, and share the agency's knowledge resources as we continue to foster a culture of organizational learning and knowledge sharing.

– Ed Hoffman
NASA Chief Knowledge Officer

Executive Summary

In FY 2014, NASA and its partners advanced key programs in service of Earth-based initiatives, such as gaining a better understanding of carbon emissions, as well as deep space exploration. Notably, the agency continued to develop the Orion Multi-Purpose Crew Vehicle—with a focus on its maiden voyage in early FY 2015—and the Space Launch System (SLS) to further human exploration beyond low Earth orbit (LEO). Additionally, NASA named two partners to pursue U.S.-based commercial crew transportation to the International Space Station (ISS), helping bring to an end U.S. reliance on Russia for transport within LEO.

For the third year in a row, the agency was named the best place to work in the federal government according to a survey conducted by the Partnership for Public Service. One significant factor in ranking NASA #1 was its training and development capabilities. NASA's training and development services placed first among similar offerings at other large federal agencies.

As the primary provider of project management and systems engineering training for the agency, APPEL is NASA's internal resource for technical workforce development. In this role, the Academy continued to support the agency's programs and projects throughout FY 2014. Maintaining its tradition of training excellence—which has twice led to being named "Best academy in the world" in a global benchmarking study of project academies conducted by Human Systems International, a subsidiary of the Project Management Institute—the Academy introduced new courses and novel resources designed to ensure project managers and systems engineers had the skills and knowledge they needed to advance mission success at NASA. In addition, the Academy engaged with subject matter experts and partnered with diverse practitioner communities to better understand mission needs in order to enhance the depth and relevance of course offerings.

The Academy also deepened its focus on customer engagement. The year saw the development and implementation of the Academy's first online catalog: an interactive, one-stop resource for information on courses, curriculum, career resources, registration, and accreditations. APPEL also created a new interactive competency model, designed to help practitioners identify the competencies required for success in their roles at NASA. Advances in website design and social media activity further strengthened the relationship between APPEL and its key stakeholders while ensuring important resources were easily accessible through the Academy's online platforms.

The CKO continued to increase its value to the agency. It strengthened its online presence by updating the interactive Knowledge Map on a regular basis, making additional tools available through the website, and expanding the agency's knowledge database. The CKO also released a new knowledge-focused NASA Policy Directive (NPD), building on the existing agency approach to knowledge management. Together, the Academy and CKO continued to develop partnerships with international space agencies and to work with young professionals, helping advance the next-generation technical workforce. They continue to lead NASA toward a strong future founded on a skilled workforce and an agency that captures and leverages its vast store of knowledge.

The Orbiting Carbon Observatory (OCO-2) launched on July 2, 2014, giving NASA a second chance to answer critical questions about atmospheric carbon dioxide (CO2).

Photo credit: NASA

Core Business

In FY 2014, the Academy and CKO achieved the following in their core areas of activity:

Training

- Trained a total of 3,099 participants in 123 courses delivered across 11 centers, including the Jet Propulsion Laboratory (JPL).
- Enhanced the learning experience by offering the first online APPEL Catalog, which features easy access to information, video introductions to courses, supplemental resources, and streamlined enrollment with one click to begin registering.
- Provided extensive enhancement and support to the agency Federal Acquisition Certification for Program/Project Managers (FAC-P/PM) program.
  - Assisted the centers with their recertification of 116 program/project managers.
  - Created an in-depth online resource, housed on the APPEL website, to provide program details and better identify center points of contact.
  - Updated all agency program-level and individual-level certification materials.
  - Developed a centralized, web-based FAC-P/PM document repository for all center POCs to use as a resource in administering their programs.

Hands-On Development

- Delivered yearlong hands-on development opportunities for high-potential system engineers nominated to participate in the Systems Engineering Leadership Development Program (SELDP).
- Provided comprehensive development opportunities for early-career engineers who participated in the Rocket University programs at Kennedy Space Center and Glenn Research Center or the HOPE (Hands-On Project Experience) Training Opportunity.

Knowledge Management

- Hosted seven Masters with Masters programs as well as additional knowledge sharing events that engaged NASA centers, international partners, and industry leaders.

Communications

- Significantly advanced the interactive and online capabilities of the Academy with the first digital APPEL Catalog and Project Management & Systems Engineering Competency Model.
- Introduced the monthly digital publication *APPEL News* Digest (more than 80,000 subscribers) and published over 60 *APPEL News* articles and interviews.

Developing Strategic Capabilities in Advance of Need

NASA Strategic Plan Overarching Goals	APPEL & CKO Activities in FY 2014
Investing in next-generation technologies and approaches to spur innovation	• Introduced the first completely online and highly interactive **APPEL Catalog.** • Developed the first interactive **Project Management & Systems Engineering Competency Model** to help guide NASA practitioner development. • Redesigned the APPEL and CKO websites to enhance utility and ease of use. • Expanded the APPEL audience through extensive engagement via social media across multiple platforms.
Inspiring students to be our future scientists, engineers, explorers, and educators through interactions with NASA's people, missions, research, and facilities	• Captured and disseminated project and mission stories through the Academy's online publications. • ***APPEL News*** stories and **APPEL case studies** were accessed by universities and other program-management organizations around the globe.
Expanding partnerships with international, intergovernmental, academic, industrial, and entrepreneurial communities	• Worked with a wide range of organizations, including the Department of Homeland Security (DHS), Department of Defense (DoD), National Oceanic and Atmospheric Administration (NOAA), and Federal Aviation Administration (FAA). • Partnered with international space agencies across diverse projects, including the International Project Management course. • Shared best practices for program manager development with ESA (European Space Agency) to support their training efforts.
Committing to environmental stewardship through Earth observation and science, and the development and use of green technologies and capabilities in NASA missions and facilities	• Introduced the first completely digital APPEL Catalog. • Offered 5 virtual courses. • Implemented online surveys to engage with key stakeholders. • Delivered course materials electronically for 72.5% of APPEL courses.
Securing the public trust through transparency and accountability in our programmatic and financial management, procurement, and reporting practices	• Maintained digital dashboards to track key performance indicators and strengthen accountability. • Continued to utilize event management software to capture customer feedback, process course surveys, award courses, and distribute course materials.

Innovations and Cost Management

For FY 2014, the Academy and CKO met the challenge of a reduced budget environment by continuing to deliver high-quality training and development activities and offerings. These innovations spanned new courses, novel interactive initiatives, customer engagement efforts, and knowledge management activities.

- Introduced a new virtual course to increase the effectiveness of teams operating in the virtual environment: Managing Virtual Teams.
- Debuted two new classroom-based courses to enhance the skill sets of NASA's technical workforce: Quiet Project Management and Assertiveness Training for Technical Professionals.
- Developed and implemented the first interactive digital APPEL Catalog, a comprehensive resource for NASA practitioners.
- Introduced an interactive Project Management & Systems Engineering (PM&SE) Competency Model to help practitioners connect competencies to their individual career development goals.
- Redesigned the APPEL and CKO websites to enhance utility and ease of use.
- Launched the *APPEL News Digest*, a dynamic monthly digital publication.
- Extensively revised the APPEL course evaluation process to attain the Kirkpatrick Level 2 standard.
- Developed *Seven Axioms of Good Engineering: Development of a Case Study-Based Course for NASA*, a paper exploring the origins and applications of the APPEL course Seven Axioms of Good Engineering A Case Study Course: Learning from Failure (SAGE).
- Hosted a NASA 2014 Virtual Project Management Challenge session in April, featuring a special Masters with Masters event on game-changing and small spacecraft technology.
- Released NASA Policy Directive (NPD) 7120.6, Knowledge Policy on Programs and Projects, which builds on the agency's approach to knowledge management established in 2012.
- Chaired the Federal Knowledge Management Community, a working group with over 200 members, for all meetings in FY 2014.
- Continued to reinforce mobile learning content and support systems for the Academy website and event management systems to capture course feedback, award courses to centers, and distribute course materials.
- Aligned APPEL course costs with agency budget reductions.

"The methods used in the class were effective. The combination of lecture, reflection, and one-on-one discussion worked well."

– Participant, Quiet Project Management (APPEL-QPM)

Photo credit: Roger Forsgren/NASA APPEL

"Trust and communication in virtual teams are essential. There are a number of tools from this course I can use to establish both."

– Participant, Managing Virtual Teams (APPEL-MVT)

Photo credit: NASA

"I learned a host of valuable assertive communication and problem-solving techniques for getting the job done successfully and effectively in an environment of technical professionals and managers."

– Participant, Assertiveness Training for Technical Professionals (APPEL-ATTP)

Photo credit: NASA

Measuring Effectiveness

The Academy and CKO measured effectiveness in FY 2014 in four primary ways.

Accreditation

- APPEL is a Registered Education Provider with the Project Management Institute® (PMI). Successful completion of designated APPEL courses allows holders of the Project Management Professional (PMP®) credential to claim Professional Development Units (PDUs) toward the recertification of their credential.
- NASA APPEL has also obtained permission from PMI such that the education requirement to sit for the PMP exam is waived for any current holder of the NASA Federal Acquisition Certification for Program/Project Managers (FAC-P/PM) credential. NASA is the only federal agency to be recognized by PMI in this manner.
- The American Council on Education (ACE®) has rigorously reviewed the content of 11 APPEL courses and recommends that successful completion of any of these be considered, by participating graduate-level education programs, for credit toward a degree program.
- The Academy has Authorized Provider status with the International Association for Continuing Education and Training (IACET) and is a past recipient of the IACET Exemplar Award for Internal Training.
- Most APPEL courses provide Continuous Learning Points (CLP) toward participant recertification of the FAC-P/PM credential.

Customer Feedback

- APPEL implements utilization metrics and user surveys to solicit customer feedback in order to enhance course offerings as well as training support. To better capture essential information from course participants, APPEL made several enhancements to the course evaluation questionnaire in FY 2014. The Academy also solicited extensive customer feedback from instructors and APPEL center points of contact in addition to participants. Demand for courses and project team services also act as feedback mechanisms.
- New assignment data, supervisor interviews, and meetings with senior leaders at NASA centers and mission directorates provide input from key stakeholders.
- APPEL also responds to requests from senior leadership for studies, papers, articles, case studies, and lessons learned.

External Validation

APPEL performs benchmarking with organizations such as Disney, Federal Aviation Administration, National Science Foundation, Defense Acquisition University, Embraer, the German Aerospace Center (DLR), and Shell.

Alignment with NASA Policies and External Requirements

- The Office of Management and Budget provides approval of project management certification process.
- APPEL performs activities supporting NASA's Corrective Action Plan to remove NASA Acquisition Management from the General Accountability Office's (GAO) High Risk List.
- APPEL activities respond to direction provided by the Aerospace Safety Advisory Panel.
- APPEL courses and offerings are aligned with NASA Procedural Requirement (NPR) 7120.5 and NPR 7123.1. Where appropriate, certain courses are also aligned with additional, relevant NPRs.
- APPEL courses and offerings are in accordance with briefings to NASA management councils and senior leaders.

Enhancing Engagement Through Interactivity

Engagement was a guiding principle for FY 2014. The Academy and CKO evolved how they engage with key stakeholders, marking a number of firsts and expanding their utility to internal and external audiences.

APPEL Catalog

More than a year in development, the Academy introduced the first completely online, highly interactive APPEL Catalog in August of 2014. This fully retooled compendium of the courses and programs offered by APPEL engages practitioners with an array of resources designed to help them determine whether the course will meet their needs. It serves as a one-stop resource for information on courses, curriculum, career resources, supplemental training materials, registration, and accreditations in support of NASA's technical workforce career development. Each course has its own webpage, which includes video testimonial, past participant feedback, a "What Will I Learn?" section detailing specific objectives, instructor information, and more. In addition, registration is accessible directly from each course page with a single click, simplifying the enrollment process.

Project Management & Systems Engineering Competency Model

The Academy collaborated with NASA subject matter experts to conduct a comprehensive review and revision of the existing competency model. The result is the first interactive Project Management & Systems Engineering (PM&SE) Competency Model, which features fully updated agency PM and SE competencies. The new model delivers a greater level of engagement to help practitioners identify the competencies required for success in their roles at NASA, and details the associated training opportunities that are available to help them enhance their proficiency with those competency areas. This extensive exercise was performed to provide a comprehensive framework from which members of the NASA technical workforce can assess their proficiencies within essential competency areas as defined by the agency.

APPEL News Digest

In January of 2014, the Academy debuted the *APPEL News Digest*: a monthly digital publication that engages stakeholders by spotlighting recent APPEL news, articles, videos, and social media interactions. It serves as a key means for sharing knowledge by providing a month's worth of content to APPEL audiences as well as to the greater project management and systems engineering communities and the general public. Available for less than a year, the *APPEL News Digest* already boasts more than 80,000 interested subscribers.

APPEL and CKO Websites

Following the migration of more than 4,000 online assets for the Academy and CKO websites in FY 2013, the team redesigned the APPEL website in FY 2014. APPEL collaborated with NASA's Office of the Chief Information Officer (OCIO) to enhance the Academy's online assets and improve the user experience. Entire sections were revamped to ensure APPEL resources and tools were easy to access and each APPEL business line was appropriately supported. In its new configuration, the website serves as the Academy's communication hub, providing information about APPEL courses, contacts, representative, and processes as well as links to the APPEL Catalog, PM&SE Competency Model, *APPEL News*, APPEL case studies, and formal papers.

An extensive renovation of the CKO website also occurred, with a focus on updating and relaunching the site for greater consistency with the APPEL website. The CKO site serves as a communications resource and knowledge repository where the CKO audience can find information about current events, such as Masters with Masters discussions, as well as material that promotes knowledge sharing, including NASA Knowledge Community Forums.

Social Media

A key goal for FY 2014 was to expand the Academy's social media presence and engagement with stakeholders in the virtual community. Through its social media platforms, APPEL engages with diverse constituencies by answering questions, finding resources, and maintaining conversations. Over the course of the year, the Academy experienced growth across all social media channels. (See "Expanding Value Through Data Insights.")

Renewed Engagement with Course Participants

For FY 2014, APPEL's Training & Support division set out to engage customers through a new electronic customer satisfaction survey to determine practitioner, instructor, and APPEL center point of contact satisfaction with the support offered by APPEL. Based on feedback from the FY 2014 survey, APPEL implemented more than 10 process improvements, including improved APPEL course webpages and new touch points with practitioners to increase their familiarity with APPEL support resources. The overall customer satisfaction rating for FY 2014 was 4.7 out of 5, which exceeded the Academy's goal of 4.2.

The Academy also focused on improvements to course evaluations in FY 2014. To better capture essential information from course participants, the Academy redesigned and revised the APPEL course evaluation. This provided a more comprehensive capture of the participant experience and helped assist APPEL in the assessment of the effectiveness of the courses. The effort also raised APPEL course evaluations to the Kirkpatrick Level 2 standard.

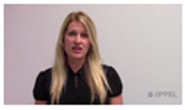
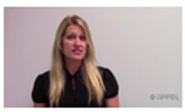
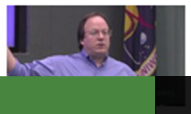
On a scale from 1 to 5 (5 being the highest), key stakeholders were asked to rate their satisfaction with APPEL training and support.

➤ The overall customer satisfaction rating in FY 2014 was 4.7.

APPEL CATALOG »

Search Course Catalog

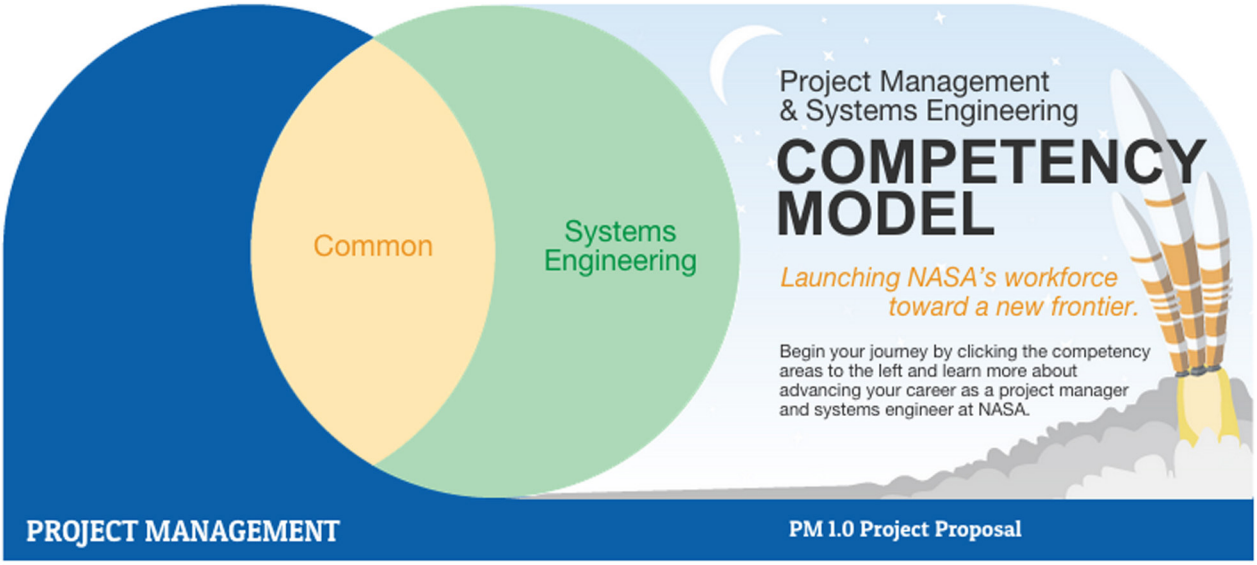
Browse Courses By: All Categories **Sort By:** Courses A-Z

COURSES ▼	CATEGORY ▼	DESCRIPTION
 **Advanced Earned Value Management (APPEL-AEVM)** Build upon the basic understanding of EVM and the PMB.	EARNED VALUE MANAGEMENT	Emphasizes advanced earned value management concepts.
 **Advanced Project Management and Advanced Systems Engineering (APPEL-APM&ASE)** Advanced concepts of project management and systems engineering.	CORE	Teaches participants how to balance performance, risk, cost, schedule, reliability and operability through all life-cycle phases.
 **Assertiveness Training for Technical Professionals (APPEL-ATTP)** Build self-confidence, self-awareness and vital interpersonal skills.	COMMUNICATIONS & LEADERSHIP	Utilizes powerful and highly participative techniques to help participants master critical 'people skills' and drive technical success.
 **Assessing Project Performance (APPEL-APP)** Effective project assessment tools and techniques.	PROGRAM / PROJECT MANAGEMENT	Demonstrates various methods to effectively assess project performance.
 **Communicating Technical Issues (APPEL-CTI)** Discover the foundation for communicating technical information.	COMMUNICATIONS & LEADERSHIP	Teaches effective methods and strategies for presenting technical issues.
 **Control Account Manager (APPEL-CAM)** EVM Online.	EARNED VALUE MANAGEMENT	Helps prepare students for a customer Integrated Baseline Review (IBR), compliance review, or surveillance review.
 **Creativity and Innovation (APPEL-C&I)** Maintaining excellence and technological superiority.	COMMUNICATIONS & LEADERSHIP	Enables NASA personnel to be more creative and innovate in all their works, including technical and managerial.
 **Crucial Conversations (APPEL-CC)** Promoting effective communication.	COMMUNICATIONS & LEADERSHIP	Demonstrates skills for creating alignment and agreement by fostering open dialogue.
 **Decision Analysis (APPEL-DA)** Making defensible decisions quickly and efficiently.	SYSTEMS ENGINEERING	Provides the tools necessary to improve the quality of a factually based decision-making process for resolving technical issues at NASA.
 **Developing and Implementing a Systems Engineering Management Plan (APPEL-SEMP)** Focusing the technical effort of projects and missions.	SYSTEMS ENGINEERING	Introduces participants to the processes that support planning, development, and execution of a Systems Engineering Management Plan (SEMP).
 **Earned Value Management Systems (APPEL-EVMS)** EVM Online.	EARNED VALUE MANAGEMENT	Introduces the standards, objectives, policies, and procedures embodied in the EVM system.
 **Earth, Moon, and Mars (APPEL-EMM)** Leveraging geology to understand other planets.	ENGINEERING	Provides a fundamental understanding of the geologic processes the operate on Earth and other planets.
Essentials of Astronomy for NASA Employees (APPEL-ASTRO) Understanding our universe.		Inspires a continued interest in astronomy and places aerospace work in the context of our physical and philosophical understanding of our universe.
Foundations of Aerospace at NASA (APPEL-FOU) Supporting NASA's mandate through technical excellence.	CORE	Gives students a fundamental understanding of NASA's mission, aeronautics, astronautics, technical writing and team membership in order to support excellence among NASA's technical workforce.

The interactive APPEL Catalog is a one-stop resource for information on courses, curriculum, career resources, registration, and more.

“Great class, great instructor, and the organizer/training specialist was extremely helpful.”

– Participant, Passing the Project Management Professional Exam (APPEL-PMP)



PM 1.0 Project Proposal	**PM 2.0** Stakeholder Management	**PM 3.0** Requirements Development & Management	**PM 4.0** Acquisition Management	**PM 5.0** Project Planning
PM 6.0 Cost Estimating	**PM 7.0** Risk Management	**PM 8.0** Earned Value Management	**PM 9.0** Safety & Mission Assurance	**PM 10.0** Project Lifecycle
PM 11.0 Budget & Resource Management	**PM 12.0** Contract Management	**PM 13.0** Systems Engineering	**PM 14.0** Tracking/ Trending of Project Performance	**PM 15.0** Project Control
PM 16.0 Project Review & Evaluation	**PM 17.0** Technology & Engineering Development	**PM 18.0** Decommissioning /Disposal & Archival of Data		

Conceptualizing, analyzing, and defining program/project plans and concepts and using technical expertise to write, manage, and submit winning proposals; involving management of crosscutting technical and programmatic teams to develop functional, physical, and operational architectures including life cycle costing.

Related Courses

- Project Management and Systems Engineering (APPEL-PM&SE)
- Passing the Project Management Professional Exam (APPEL-PMP)
- Project Management Leadership Lab (APPEL-PM-LAB)
- Project Planning Analysis and Control (APPEL-PPAC)

The new competency model offers practitioners a highly interactive means of assessing their proficiencies within essential competency areas defined by NASA.

Building Individual Capability Through Training

The Academy's training curriculum was created exclusively to develop NASA's technical workforce, enabling practitioners to augment NASA-specific expertise and capability in project management and systems engineering. It supplements both academic and professional work experience, drawing extensively on best practices and the knowledge of NASA subject matter experts to ensure it addresses the needs of the agency's practitioners.

Courses are developed following established instructional design processes and are reviewed, audited, and revised annually or as needed by NASA subject matter experts. Participant feedback is also solicited and incorporated into course updates. Courses are offered using a variety of delivery methods, including live classroom, virtual classroom, and self-paced online offerings. They are highly interactive and include case study analyses, group discussion, individual exercises, and simulations.

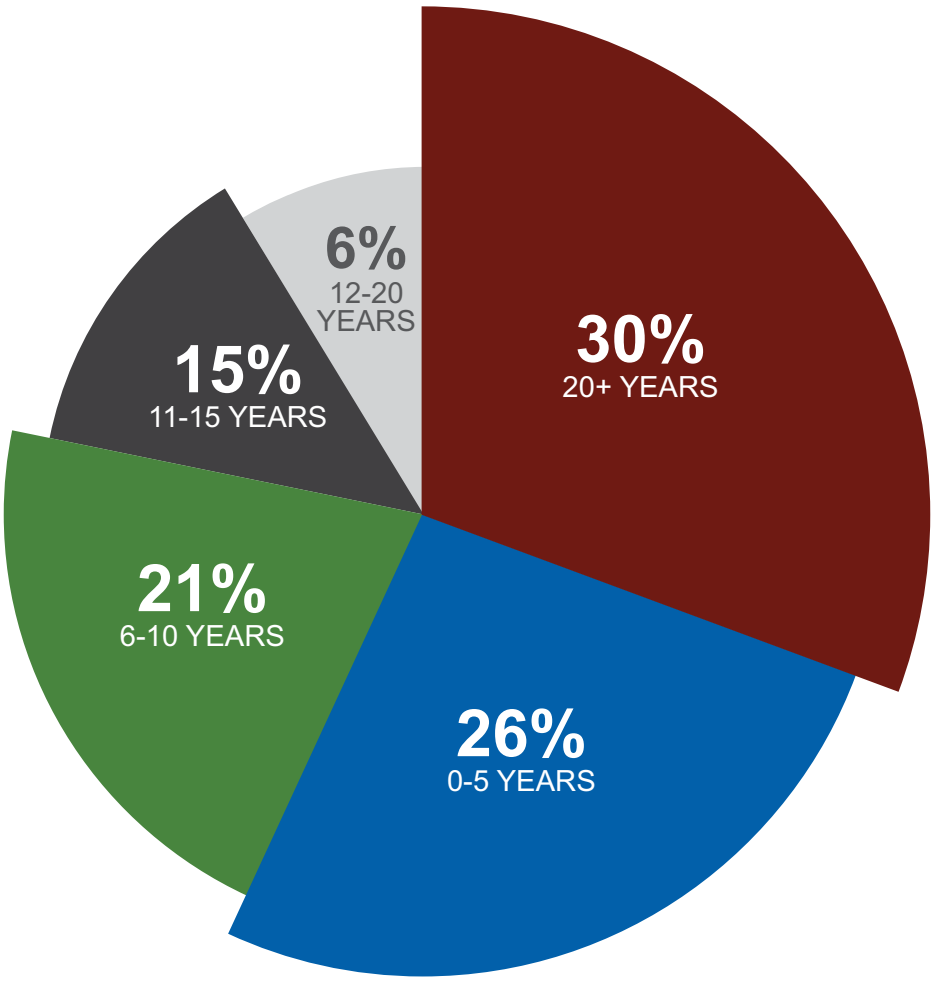
The curriculum consists of a wide range of courses:

- **The Academy's core courses** cover both foundational and advanced topics. They offer a comprehensive, integrated approach to learning and are designed to help participants expand their thinking: to make connections among many systems engineering and project management principles and concepts, see the big picture, and understand the context and interrelationships of the topics.
- **The Academy's 50 in-depth courses** supplement the core curriculum and span a critical range of disciplines: project management, systems engineering, engineering, communication and leadership, earned value management, and mission and safety.

For FY 2014, APPEL offered 123 courses: 11 core, 107 in-depth, and 5 virtual courses.

APPEL Course Participants Span All Levels of Experience at NASA

Fiscal Year 2014

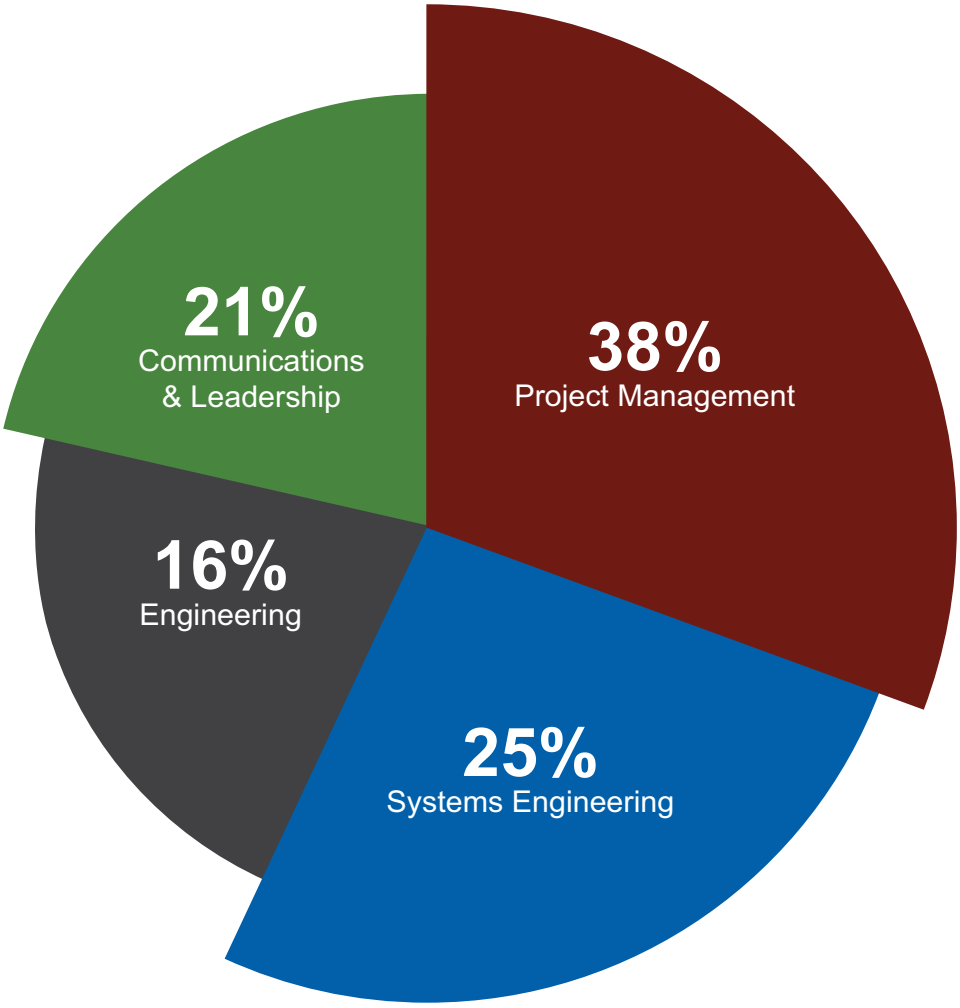


APPEL courses meet the development needs of practitioners at all stages of career growth, from early career (0-5 years) to highly experienced (20+ years).

The Academy's Project Management & Systems Engineering Competency Model provides the basis for all course objectives. The model, which aligns with NASA standards, policies, and requirements, consists of 18 project management competency areas, 17 systems engineering competency areas, and 14 shared competency areas common to both project management and systems engineering. The new interactive model is specifically designed to make it easier for practitioners to identify the competencies required for success in their roles at NASA.

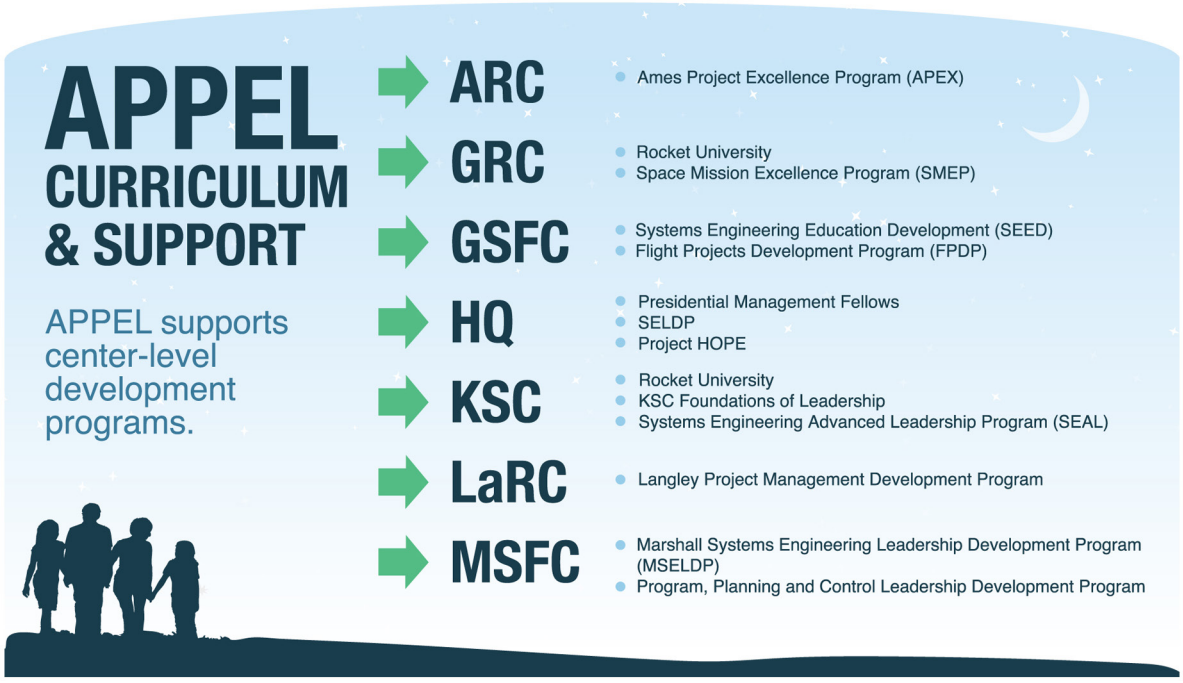
Center Course & Program Support

For FY 2014, APPEL funded 75% of center course requests. Overall, 13% of NASA's technical workforce attended one or more APPEL courses in FY 2014.



Center course requests by curriculum area for FY 2014.

In addition, the Academy continued to integrate with center development programs, offering courses as well as support critical to the training provided by centers.



APPEL is a key center development resource, supporting a range of center-level programs.

Innovative Offerings

In order to address new and emerging needs, the Academy continued to innovate and build upon its in-depth course offerings. In FY 2014, three new courses were introduced:

- Assertiveness Training for Technical Professionals (APPEL-ATTP)
- Managing Virtual Teams (APPEL-MVT)
- Quiet Project Management (APPEL-QPM)

The Academy collaborated with practitioner communities as well as subject matter experts to ensure the accuracy and relevance of APPEL courses. Courses were reviewed, audited, and revised, as needed, to reflect input and to meet the diverse needs of NASA's technical workforce. In FY 2014, APPEL worked closely with NASA's project planning and control community, incorporating content recommendations from NASA subject matter experts to revise APPEL's Project Planning Analysis and Control (APPEL-PPAC) course. This led to the incorporation of critical NASA-specific content into what was already a highly rated mainstay of the APPEL curriculum.

Academy Center for Excellence

The Academy Center for Excellence (ACE), APPEL's state-of-the-art learning facility at Kennedy Space Center, hosted 102 events for a total of 2,410 participants during Q2-Q4 FY 2014. The ACE facility serves as the Academy's primary location for delivering its core courses, and is continually utilized and visited by NASA groups such as Rocket University, NASA's human capital and engineering organizations, and NASA industry and international partners. (See "Learning and Working Through International Collaboration.")

On a scale from 1 to 5 (5 being the highest), participants were asked to rate their satisfaction with APPEL core and in-depth courses.

- The average rating for all core courses in FY 2014 was 4.04.
- The average rating for all in-depth courses in FY 2014 was 4.23.

Learning Through Hands-On Experience

NASA's vision and mission demand a workforce with the ability to design, develop, and execute one-of-a-kind projects in aeronautics research, space exploration and technology, and scientific discovery. Formal development programs and hands-on learning provide early- and mid-career professionals with on-the-job learning experiences that accelerate their professional development and readiness to lead.

Systems Engineering Leadership Development Program (SELDP)

The Systems Engineering Leadership Development Program (SELDP) grew out of a need identified by NASA leadership and the Office of the Chief Engineer (OCE) for an agency-wide leadership development program that would help identify and accelerate the development of high-potential system engineers, with a focus on specific leadership behaviors and technical capabilities that are critical to success in the NASA context. The program aims to develop and improve systems engineering leadership skills and technical capabilities within the agency.

SELDP offers participants an agency-wide perspective, unique hands-on systems engineering developmental assignments, and advanced leadership skills development through extended rotational assignments to a new center, a series of interactive workshops and special training initiatives, and benchmarking visits to diverse organizations. The goal of the program is to develop and improve leadership skills and technical capabilities among participants.

SELDP selects candidates through a rigorous competitive application process. Once participants complete baseline assessments that identify strengths and areas for development, they embark upon a year of learning, developing, and practicing the qualities of a systems engineering leader: creativity, curiosity, self-confidence, persistence, and an understanding of human dynamics.

The 2014 SELDP class consisted of seven participants who engaged in a series of courses and workshops on leadership, had a rotational assignment at a new center, and participated in benchmarking visits at United Launch Alliance, Ball Aerospace, Ames Research Center (ARC), and Jet Propulsion Laboratory (JPL). Graduates of this year's program stressed their belief in NASA's mission and committed to making a difference through the strong leadership skills gained from the program. Graduation was held in June and was attended by NASA Administrator Charles Bolden.

The seven graduates of the 2014 class brought the total number of SELDP graduates to 75 systems engineers.

Ousmane Diallo, Aerospace Research Engineer at Ames Research Center, discusses his experience with the program during the 2014 SELDP graduation ceremony.

Photo credit: NASA/Joel Kowsky

SELDP 2014 graduate Paul Banicevic, Aerospace Engineer at Langley Research Center, reminds his fellow graduates that, "The only certain thing you can say about leadership is that it's full of uncertainty."

Photo credit: NASA/Joel Kowsky

SELDP graduate Vanessa Stroh, Fluids System Test Engineer at Kennedy Space Center, leads a break out session as part of the graduation ceremony for the class of 2014.

Photo credit: NASA/Joel Kowsky

HOPE Training Opportunity

Project HOPE (Hands-On Project Experience) is a cooperative workforce development program sponsored by the Academy and the Science Mission Directorate. The HOPE Training Opportunity provides teams of early-entry NASA employees with a chance to propose, design, develop, build, and launch a suborbital flight project over the course of 18 months. The purpose of the program is to enable practitioners in their early careers to gain the knowledge and skills necessary to manage NASA's future flight projects.

In 2014, APPEL focused a team of 13 young engineers from Langley Research Center (LaRC) on the Radiation Dosimetry Experiment (RaD-X). The RaD-X mission, designed to procure the first high-altitude dosimetric measurements of cosmic ray interaction in the upper atmosphere, provides trainees with hands-on training in all major phases of mission design and execution, complemented by mentoring and formal learning experiences. This experience supports the goal of developing qualified science and technology personnel to support science missions.

RaD-X provides the 13 trainees with first-hand practical flight mission experience as they receive the training needed to realize the mission's goals. The RaD-X training tightly integrates mentoring, coaching, and informal training with APPEL courses. The result is a customized, flexible, and integrated training approach that is preparing the RaD-X team for mission success.

> "Project HOPE, through DEVOTE, provided me with an opportunity to serve as the lead technical authority for a full end-to-end mission that enhanced my engineering leadership development."
>
> **– Melissa Ashe, Chief Engineer for Project HOPE's Development and Evaluation of Satellite Validation Tools by Experimenters (DEVOTE)**

Rocket University

Rocket University ("Rocket U" or "RU") is a NASA training and development effort designed to give early-career employees hands-on project experience throughout the full lifecycle of a flight project. The program seeks to develop the next-generation workforce as they transition into higher-profile projects. While programs at Kennedy Space Center (KSC) and Glenn Research Center (GRC) share a common foundation, each is tailored to meet the learning needs of their center and workforce. Since 2012, the Academy has served as a key partner with NASA's Rocket U programs as part of its commitment to hands-on training and development for the NASA workforce.

In 2014, Rocket U teams attended many APPEL courses, including Lifecycle, Processes, & Systems Engineering, Requirements Development and Management, Project Planning Analysis and Control, Space Systems Verification and Validation, and Risk Management.

In addition, Rocket U offered non-APPEL courses that advanced engineering development for team members, including Fabrication Overview, Structural Dynamics, Communications Telemetry, Instrumentation and Selection, and Cryogenic Propulsion Systems.

GRC's Rocket U program successfully launched its first Risk Reduction flight in August of 2014. The main purpose of the flight was to provide experience in balloon launches and to test avionics and altitude awareness systems in a real-time environment. Meanwhile, KSC's Rocket U program completed the near-space lab, eMIST (exposure of Microbes to the Stratosphere), which was successfully launched in the fall of FY 2014 in Fort Sumner, NM.

Members of Glenn Research Center's pilot Rocket U program prepare for the launch of their Balloon Gondola project. From left to right: Kristen Bury, Amanda Stevenson, Justin Niehaus, Jeff Chin, Fransua Thomas, and Doug Astler.

Photo credit: Anthony Roberts/NASA

"It's been really nice to have things flow [in Rocket U]: first we're going to talk about project management, then requirements development, then we're going to talk about project processes… It makes sense to take classes in the right order because then we understand why we're doing something. For instance, I know what to do when I'm writing my requirements, and I will do a better job at that because I know how to validate those requirements later on. So how the curriculum is set up really helps with the learning experience. That's one of the biggest things I appreciate about the Rocket U program."

– Matt Smith, Engineer,
part of GRC's Rocket U program

"My NASA background is research but my schooling background is engineering. This program has helped me be able to work both on the research side and on the engineering side; to be able to talk to safety and mission assurance as well as project managers and be aware of who I'm talking to and what they're trying to get out of every conversation."

– Justin Niehaus, Engineer,
part of GRC's Rocket U program

"We're getting a whole network and resources we wouldn't have had otherwise. We've come back with binders of resources from each of the workshops we've finished in training. Plus, we'll still have all of our connections after we finish Rocket U."

– Jeffrey Chin, Engineer,
part of GRC's Rocket U program

"The course work has been impacting my day-to-day work a lot in terms of exposing me to technical areas where I didn't have any kind of a background before."

– Kristen Bury, Engineer,
part of GRC's Rocket U program

Members of GRC's pilot Rocket U program prepare the balloon for their flight project. From left to right: Kristen Bury, Amanda Stevenson, Justin Niehaus, Deb Goodenow, and Dave Wolford. Behind the balloon: Fransua Tahomas.

Photo credit: Anthony Roberts/NASA

CKO: Promoting a Learning Organization Through Knowledge Services

The CKO promotes agency-wide knowledge management and services, engaging the NASA knowledge community in dialogue and sharing resources that 1) advocate the development of a network of practitioners who reflect, capture, and share knowledge, and 2) ensure that critical knowledge is available throughout the agency and beyond. Made up of centers, mission directorates, and supporting organizations, the NASA knowledge community leverages best and leading practices as well as lessons learned from expert knowledge practitioners within NASA, other government agencies, industry, academia, research and professional organizations, and international space agencies.

The CKO community engages in numerous activities designed to advance knowledge capture and sharing in service of project and mission success. These include drafting and implementing knowledge strategy and hosting case study presentations at multiple centers. Other collaborative and knowledge-sharing projects include Jet Propulsion Lab's (JPL) searchable JPLTube keyworded videos, Kennedy Space Center's (KSC) Lessons Learned Database, Human Exploration and Operations Mission Directorate's (HEOMD) Knowledge-Based Risk Dashboard, Johnson Space Center's (JSC) Search Work Group, and Marshall Space Flight Center's (MSFC) Distilling and Referee Process for Lessons Learned. The CKO is also extensively involved with the International Program/Project Management Committee (IPMC), APPEL's International Project Management Course, and the Young Professionals Workshop.

Masters with Masters

The Masters with Masters interview video series brings together two or more expert practitioners to share insights, stories, lessons learned, and best practices, as well as the challenges of managing a project or team. The discussions, led and facilitated by the CKO, are captured and distributed through a variety of communications models, including the CKO website and the Academy's YouTube and iTunes University platforms.

Seven Masters with Masters events took place in FY 2014:

- John Hamley, former **Deputy Director of the Space Flight Systems Directorate at Glenn Research Center (GRC)**, and Vince Bilardo, **Chief of the Program and Project Integration Office at GRC**, spoke on a variety of topics including lessons learned and collaboration between centers.
- Jim Erickson, **Mars Science Laboratory Manager at JPL**, and Jan Chodas, **Director of the Office of Safety and Mission Success**, discussed the subjects of lessons learned from various flight projects as well as professional development.

- Richard Cook, **Deputy Director for the Solar System Exploration Organization at JPL**, and David Lehman, **Project Manager at JPL**, addressed the critical issues of leadership and lessons learned from previous missions.
- Steve Gaddis, **Director of Game Changing Development at Langley Research Center (LaRC)**, and Bruce Yost, **Program Manager for Small Spacecraft Technology at Ames Research Center (ARC)**, shared examples of their current work to demonstrate how the past informs decisions made today.
- Michael Bell, **KSC Chief Knowledge Officer**, and David Oberhettinger, **JPL Chief Knowledge Officer**, discussed the evolution of knowledge capture at the agency and the importance of capturing lessons learned from past missions to benefit future endeavors.
- Mike Ciannilli, **Test Director, Project Manager of the Columbia Research and Preservation Office and Project Manager of the Space Shuttle Challenger Office**, and Jon Cowart, **Deputy Project Manager working with Space Exploration Technologies (SpaceX)**, talked about lessons learned and experiences from the Space Shuttle and Commercial Crew programs.
- **NASA Administrator** Charles Bolden and former **Canadian Space Agency President** Walter Natynczyk discussed topics of interest to young space professionals, such as mentoring and career development, at the International Astronautical Congress in Toronto, Canada.

NASA Chief Knowledge Officer Ed Hoffman discusses lessons learned with KSC Chief Knowledge Officer Michael Bell and JPL Chief Knowledge Officer David Oberhettinger during a Masters with Masters event on July 24, 2014.

Photo credit: NASA

Mike Ciannilli, NASA Test Director, and Jon Cowart, NASA Commercial Crew Program, talked with NASA CKO Ed Hoffman about lessons learned and other topics during the 23rd Masters with Masters in the video interview series.

Photo credit: NASA

In September 2014, the Department of Transportation (DOT) hosted the 16th meeting of the Federal Knowledge Management Community (FKMC). This special meeting featured NASA CKO Ed Hoffman, Project Management Institute President and CEO Mark Langley, and JPL CKO David Oberhettinger.

Photo credit: DOT

Knowledge Services

The CKO promotes a learning organization through knowledge services. In FY 2014, NASA's CKO delivered addresses and presentations at over two dozen events and conferences. His presentations touched on knowledge management and services as well as related topics such as program management of large engineering projects, program management as part of organizational context, and the significant challenges in today's project environment. Events included KSC's Working Knowledge Forum, GRC's Knowledge Forum, NASA Project Planning and Control (PP&C) Reaching Excellence Program, and a Masters with Masters 2014 Virtual PM Challenge session with Bruce Yost and Stephen Gaddis.

Federal Knowledge Management Working Group

During 2014, the NASA CKO chaired for a second year the Federal Knowledge Management Working Group (FKMWG), which brings together knowledge management representatives from over 20 different government agencies, such as the Department of Justice, Department of State, Central Intelligence Agency, and Department of Defense. Founded in 2011 with the sponsorship of the Federal Bureau of Investigation, the 300-member community meets quarterly to discuss best practices, current challenges, and emerging trends in knowledge management. Highlights from this year include a visit and presentation from Project Management Institute (PMI) President Mark Langley and JPL CKO David Oberhettinger.

Regular Community Meetings

The NASA CKO community meets remotely to share strategies and successes. As part of the agency's knowledge management policy (NPD 7120.6), drafted in 2012, the community meets in a conference setting twice a year. The community also gathers for quarterly remote meetings. These regular meetings ensure that information systems are accessible, facilitate diverse and unique opportunities for sharing and networking, establish best and leading practices for assessing and validating knowledge, and enhance mature models for knowledge services effectiveness.

Learning and Working Through International Collaboration

The role of international collaboration in space exploration is increasingly important as programs become more bold, complex, and expensive. For FY 2014, the Academy and CKO continued to collaborate with NASA's international partners through the International Program/Project Management Committee of the International Astronautical Federation and the Academy's International Project Management course.

International Program/Project Management Committee (IPMC)

During 2014, NASA continued to participate actively in the IPMC of the International Astronautical Federation. The IPMC meets twice annually and provides a forum to promote sharing of experiences and approaches to international project management and technical workforce training among the committee's 23 participating space agencies, companies, and professional organizations. NASA's CKO serves as the chair of the IPMC.

In addition, NASA and its IPMC member counterparts again organized a Young Professionals Workshop. (See "Meeting the Needs of Young Professionals.")

International Project Management Course

In February and July of 2014, APPEL conducted two highly successful International Project Management (IPM) courses held at the Academy Center for Excellence (ACE) at Kennedy Space Center (KSC). The course is designed to bring together NASA and international participants to develop international teaming skills and understand respective project management approaches and challenges. Forty-seven NASA project team members and 39 counterparts from ten countries nominated by IPMC member organizations took part in the two courses. The week-long IPM sessions included modules discussing the programs and project management approaches of ESA (European Space Agency), the Japan Aerospace Exploration Agency (JAXA), the Centre National d'Etudes Spatiales (CNES), the German Aerospace Center (DLR), the Canadian Space Agency (CSA), and the Korean Aerospace Research Institute (KARI), as well as a module on the perspectives of space industry participants supporting collaborative international projects.

Masters with Masters

NASA's CKO moderated a Masters with Masters session in September of 2014 involving NASA Administrator Charles Bolden and then-Canadian Space Agency President Walter Natynczyk. The discussion featured topics of interest to young space professionals who were attending the International Astronautical Congress in Toronto, Canada. A video recording of the session will be available on the Academy's Masters with Masters YouTube channel.

Participants from 10 countries joined NASA project team members for the International Project Management course in FY 2014.

Photo credit: NASA APPEL

Meeting the Needs of Young Professionals

As a new generation of professionals is poised to enter the technical workforce, the Academy and CKO have continued to work toward bridging the gap between NASA veterans and early-career employees. In FY 2014, the Academy continued to engage with NASA's young professional community to better understand their professional development needs and provide them with the resources and support they need to grow.

NASA Young Professionals Page

To support early-career professionals across the agency, the Academy developed the first comprehensive source for connecting NASA young professionals with their peers across the agency: a dedicated NASA Young Professionals page housed on the APPEL website. The Young Professionals webpage serves as a resource for all of the details about how to connect with each group by email, interact with them through social media, or visit their website to find out more about what they're doing. The page provides a means for NASA young professionals to share knowledge across the agency by connecting with colleagues.

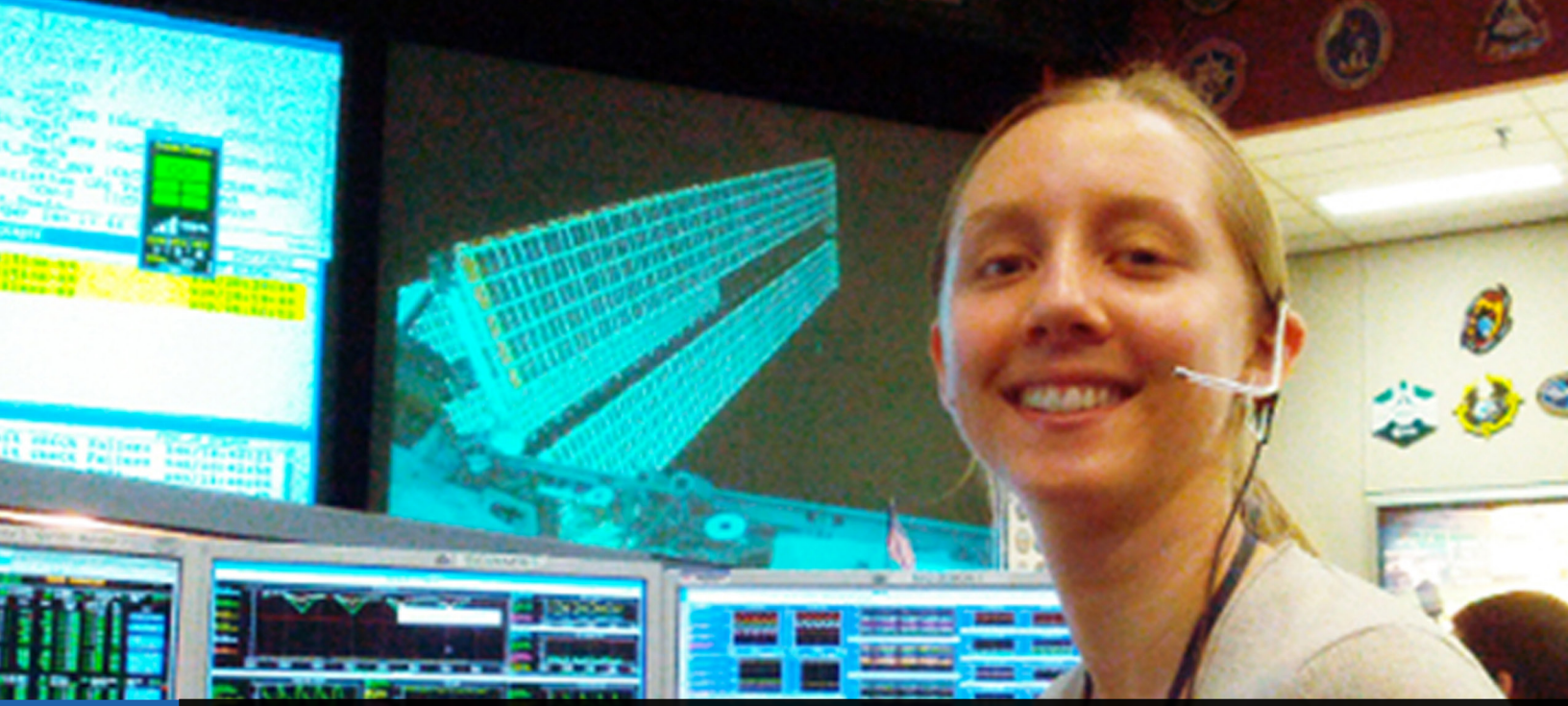
Young Professionals Workshop

In September 2014, NASA and its IPMC member counterparts again organized a Young Professionals Workshop for 33 participants nominated by space agencies, companies, and professional organizations in 15 countries. The workshop, held in conjunction with the 2014 International Astronautical Congress in Toronto, Canada provided an opportunity for the participants to share stories, insights, and knowledge about their work experiences and career development opportunities. A report summarizing the discussions and recommendations of the participants is in development.

Also at the 2014 International Astronautical Congress, NASA Administrator Charles Bolden and then-Canadian Space Agency President Walter Natynczyk participated in a Masters with Masters forum that featured topics of interest to next-generation space professionals. (See "Learning and Working Through International Collaboration.")

APPEL News Interviews and Articles

In FY 2014, the Academy's *APPEL News* featured numerous in-depth articles exploring the activities of NASA young professionals. Topics included interviews with members of Glenn Research Center's (GRC) Rocket University inaugural class as well as follow-up articles about the impact of participation in early-career development events. *APPEL News* also attended virtual forums that were part of the Young Professionals Programme at the 2014 International Astronautical Congress, and covered contributions from the international young professional community toward human space exploration.



Kristen Bury, engineer at Glenn Research Center (GRC), sitting on the SPARTAN (Station Power, Articulation, and Thermal Control) console in Mission Control at Johnson Space Center.

Photo credit: NASA

In a follow-up article with past participants in the NASA Unmanned Aerial Systems (UAS) Inaugural Competition, APPEL News caught up with members of Marshall Space Flight Center's (MSFC) Team Aero M. From left to right: Adam Kimberlin, Chris Becker, Tiffany Russell, Jim Snoddy (mentor), Robert Parker, Garrick Merrill, and Peter Ma.

Photo credit: NASA

Since the NASA UAS Inaugural Competition, MSFC's Team Aero M has continued working on a series of unmanned aerial vehicles. Their efforts—which include a new octocopter, seen above in flight—benefit their center in multiple ways.

Photo credit: Todd Freestone

Expanding Value Through Data Insights

To maximize its online and social media impact, the Academy continues to invest in communications services and strategies to deliver critical updates, content, stories, and reports to its stakeholders. Using a "connect and learn" approach, the Academy communicates to a wide audience to connect practitioners to the people, resources, and knowledge they need in order to learn, grow, and develop as managers and engineers.

For FY 2014, the Academy sought to learn more about these interactions in order to better understand stakeholder usage of APPEL resources and more effectively meet their training and educational needs. To accomplish this, the Academy invested in Google Analytics at the recommendation of the Office of the Chief Information Officer (OCIO). NASA employs this tool to obtain external metrics for all public-facing websites. Through the metrics assessments provided by Google Analytics, the Academy is able investigate how visitors use the APPEL website and online resources, who is accessing the website, and where they are located regionally. The wealth of data and flexibility in analysis of statistics provided by the program enabled the Academy to fine-tune its online and social media activities in FY 2014 in order to build its audience and expand its value to stakeholders.

APPEL Website Metrics

Throughout FY 2014, the APPEL website experienced a consistent expansion of user traffic. The total number of page views for the website from November 2013* through September 2014 was 116,148. Monthly page views increased from less than 9,000 in November of 2013 to over 15,000 in September of 2014. The high traffic on the APPEL website was attributable to the relevance of its contents as well as improvements in the look, feel, and functionality of its webpages.

Traffic on the APPEL website grew as APPEL's communications reached users in all 50 states. The majority of website users were U.S.-based, with most located near NASA centers. Outside of the U.S., individuals in Europe, Asia, and elsewhere—including those at international space agencies and learning institutions—also accessed the site.

Top States/Regions in FY 2014†

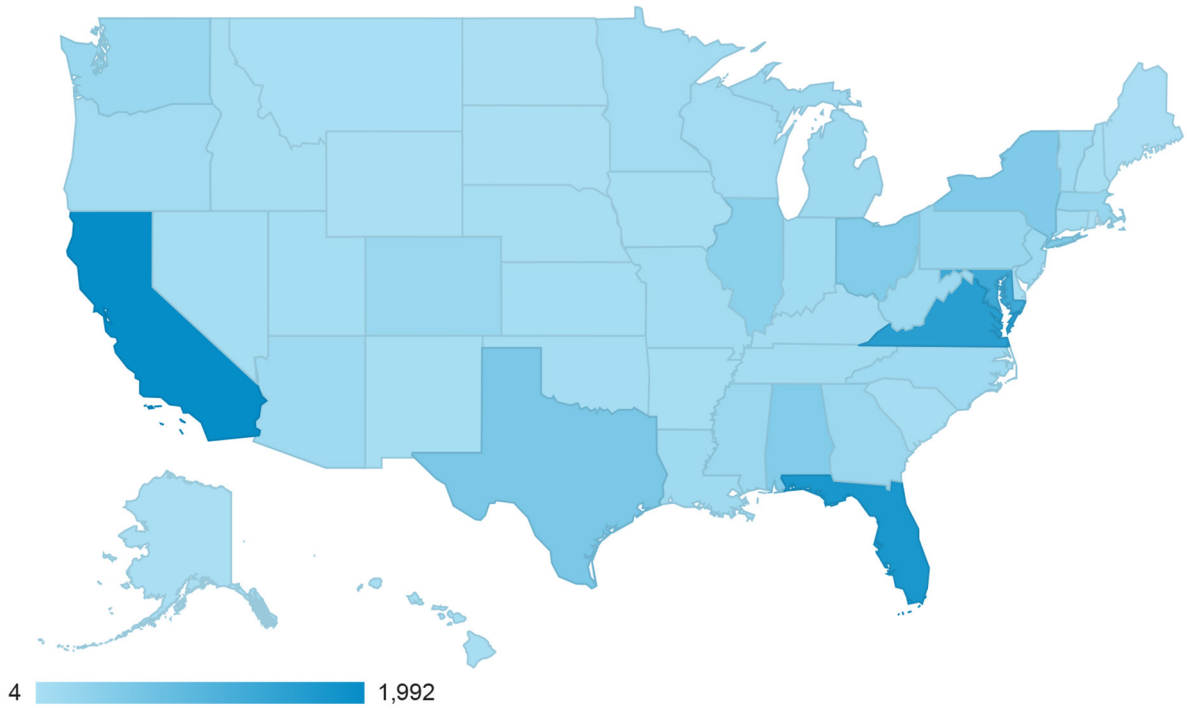
- California
- Florida
- Virginia
- Maryland
- District of Columbia

Top Countries in FY 2014†

- United States
- India
- United Kingdom
- Canada
- Australia

** Data for FY 2014 are available from November 1, 2013 through September 30, 2014. Due to the government shutdown in October 2013, no data were captured for that month.*

† Website user data was captured from April 1, 2014 through September 30, 2014.



Over the year, the APPEL website attracted users from all 50 states.

The first interactive APPEL Catalog was launched on the APPEL website on August 18, 2014. In the month and a half between its launch and the end of FY 2014, the catalog experienced 3,800 page views, making it the second-highest visited page on the APPEL website for the entire fiscal year.

Another important Academy asset produced in FY 2014, the interactive PM&SE Competency Model was also introduced on August 18, 2014. From that date until the end of the fiscal year a month and a half later, the competency model webpage was viewed 639 times.

Social Media Metrics

The Academy utilizes a full range of digital channels to keep APPEL news and accomplishments in the forefront.

- **Twitter** is a key platform for the Academy to share news about significant moments in NASA history, lessons learned on complex projects, and insights from live-streamed events that impact APPEL stakeholders, such as the Commercial Crew Program partner announcement.
- **Facebook** allows the Academy to maintain a longer conversation with stakeholders. Posts augmented by images and links to *APPEL News* stories elicit a strong response, a strategy that continues to be effective at increasing community engagement and awareness of APPEL.
- **Flickr** serves as a repository for visual storytelling. In addition to supplementing new stories with Flickr albums, the site allows the Academy to share lesser-known stories and images to increase page views.
- The Academy uses **YouTube** to share video content with the NASA technical workforce and its stakeholders, including Masters with Masters events, career and professional development presentations, and lessons learned discussions.
- Through the **iTunes U** platform, the Academy is able to share knowledge with NASA practitioners in an easy-to-use-and-download format. Resources include APPEL publications, curriculum material, and Academy archives.

APPEL Metrics Snapshot

APPEL Website
Avg. Pageviews Per Month

FY2013 10,342

FY2014 12,401

YouTube
Views to Date

FY2013 84,987

FY2014 106,026

Twitter
Followers to Date

FY2013 13,498

FY2014 15,578

Facebook
FY Total Likes

FY2014 4,353

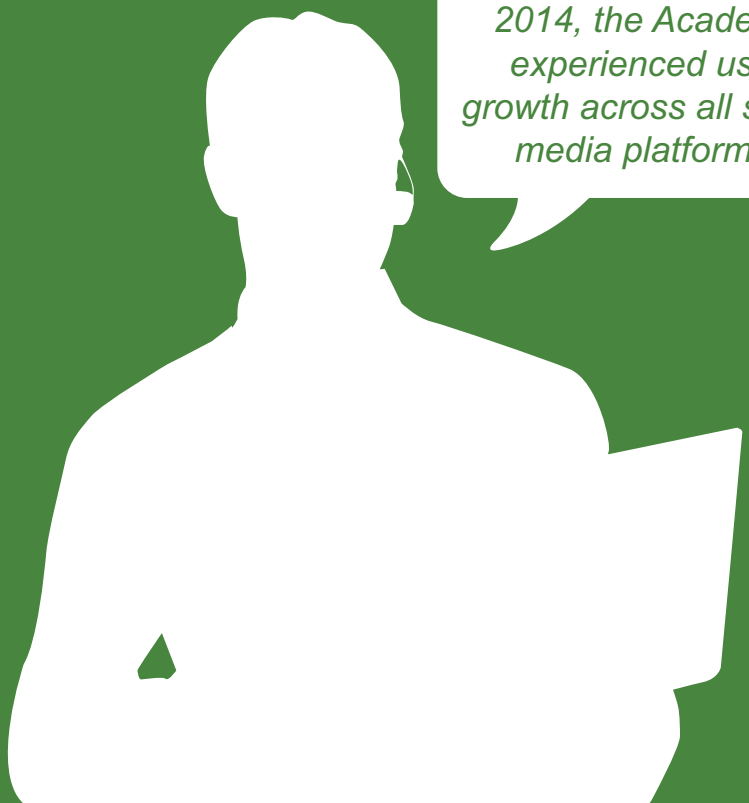
FY2013 2,867

iTunes
Views to Date

FY2013 122,234

FY2014 141,278

Over the course of FY 2014, the Academy experienced user growth across all social media platforms.



Flickr
FY Total Views

FY2013 67,821

FY2014 331,215

Operational Metrics

Beyond its digital offerings, in FY 2014 APPEL examined its level of customer satisfaction and quality control through surveys and monthly evaluations in order to enhance the Academy's interactions with key stakeholders.

Customer satisfaction surveys based on defined quality standards were sent to APPEL course participants and instructors as well as APPEL points of contact at each NASA center, with the goal of soliciting key stakeholder input to improve APPEL performance. The customer satisfaction analysis produced an overall satisfaction rating of 4.7 out of 5 for FY 2014. (See "Enhancing Engagement Through Interactivity.")

Monthly quality control evaluations focused on 11 key performance indicators (KPIs), which examined how APPEL Training & Support Specialists performed across three categories: Process, System, and Customer Service. The evaluations enabled the Academy to ensure consistency in delivery and practitioner satisfaction. The quality control audits, based on how many of the KPIs were met for FY 2014, resulted in an overall score of 99%, which surpassed the Academy's goal of 97%.

Together, the data enabled the Academy to measure both the satisfaction of stakeholders with APPEL support as well as the quality of the support provided. Furthermore, the direct feedback facilitated continuous process improvement. Based on responses, APPEL instituted changes designed to improve the course attendee experience, such as ensuring course information—including maps and directions—was easily accessible and increasing the level of interaction with practitioners.

Based on monthly quality control audits, the performance of APPEL Training & Support Specialists was examined against 11 KPIs.

➤ The overall quality control score in FY 2014 was 99%.

Looking Ahead to 2015

FY 2015 will be an exciting time for NASA and the Academy. APPEL will continue its tradition of innovation in order to deliver high-quality and effective training, development opportunities, and tools for learning and knowledge to the NASA technical workforce.

A number of new resources, programs, and audience-engagement events are planned for FY 2015, include:

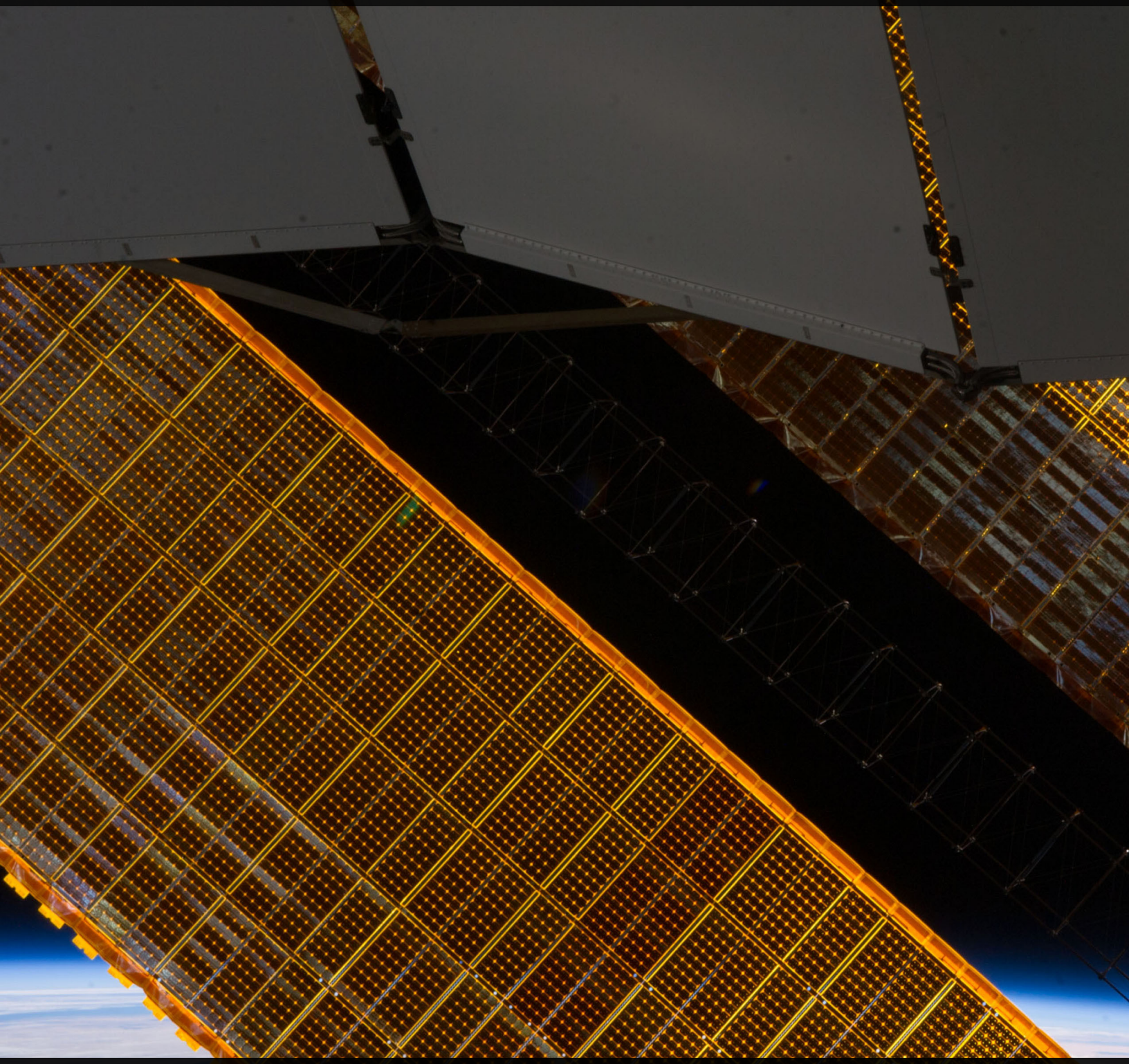
- Expanding the utility of the interactive APPEL Catalog by introducing additional video testimonials, participant comments, supplemental resources, and other materials designed to help practitioners identify the courses that will support their training goals.
- Enhancing the interactive Project Management and Systems Engineering Competency Model by connecting competencies to practitioner roles and providing examples of required knowledge, skills, and behaviors at four career levels.
- Revamping pages in the existing Career Resources section of the APPEL website to provide more information in order to better assist the technical workforce in their career-planning activities.
- Maintaining the practice of continuously reviewing APPEL courses with subject matter experts to ensure alignment with NASA policies and procedures as well as agency missions.
- Supporting the recertification of NASA holders of the Federal Acquisition Certification for Program and Project Managers (FAC-P/PM).
- Enhancing engagement with Academy stakeholders through participation in live social media events.
- Expanding the Academy's case study base to enhance virtual learning resources.
- Increasing APPEL presence at academic and industry conferences to share knowledge and best practices.
- Continuing to solicit review of the Academy's offerings by participating in external benchmarking studies of training institutions throughout the world.

The Academy and CKO remain committed to supporting the agency's mission and workforce in this challenging fiscal environment.

> "Tell me and I forget. Teach me and I remember. Involve me and I learn."
>
> **– Benjamin Franklin**

A tiny representation of the sun sneaks through between a truss-based radiator panel and a primary solar array panel on the Earth-orbiting International Space Station in this photograph taken by one of the Expedition 38 crew members on Jan. 2, 2014.

Photo credit: NASA



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