COST ESTIMATING COMMUNITY OF PRACTICE

6TH ANNUAL SYMPOSIUM

August 2 - 3, 2022
Washington, DC

Working Together. One Mission. One Vision. One NSE.

Nearby Lunch Options

Brown Bag L'Enfant Plaza

bop bop

California Tortilla

Roti Mediterranean

Rice Bar

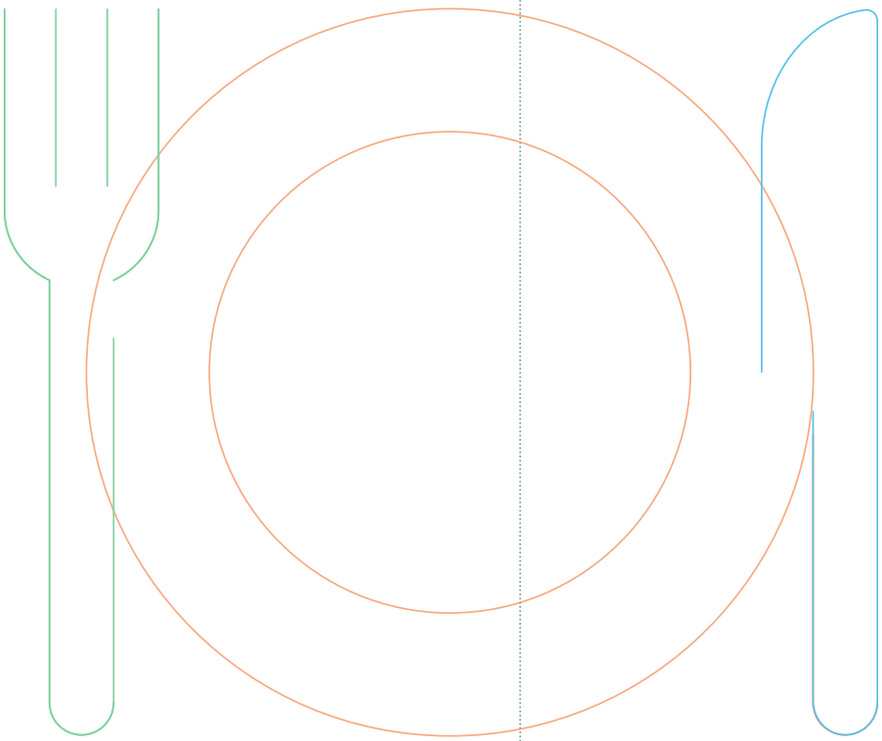
Mama Ilardo's Pizza

Potbelly Sandwich Shop

Charley's Cheesesteaks

L'Enfant Bar and Grill

West Wing Cafe



Some restaurants are located in the L'Enfant Plaza Promenade which is the 1st Floor below the Hilton Hotel Lobby. Follow Hotel Lobby signs to L'Enfant Plaza Building to the Elevator.

Welcome from Consolidated Nuclear Security Chief Operating Officer, Bill Tindal and Operations Support Vice President, Doug Freund

Bill Tindal
CNS Chief Operating Officer
Pantex and Y12 National Security Complex

Doug Freund
CNS Operations Support Vice President
Pantex and Y12 National Security Complex

Welcome to the Sixth Annual Cost Estimating Community of Practice (CECOP) symposium, on behalf of the National Nuclear Security Administration's (NNSA) Cost Estimating Analysis Group (CEAG) and Consolidated Nuclear Security (CNS). This year's symposium is hosted by NNSA in partnership with the CNS Pantex Plant in Amarillo, Texas and Y-12 National Security Complex in Oak Ridge, Tennessee.

CECOP was formed by the NNSA's eight sites and Headquarters for the purpose of exchanging cost estimating best practices through collaborative relationships within government, industry, and the Nuclear Security Enterprise.

We welcome all the cost-estimating professionals from NNSA, DOE, DoD, contractors, and other experts in the field seeking continuous improvement by participating in this dynamic collaboration over the next two days.

A special welcome to our accomplished keynote speakers, Jim McConnell and Krystyna Kolesar. Mr. McConnell serves as the Associate Principal Deputy Administrator of the U.S. Department of Energy's National Nuclear Security Administration. Ms. Kolesar serves as U.S. Army Assistant Deputy Chief of Staff, G-8. It is an honor to have them with us at this year's Symposium, and we thank them both for their participation.

This year's event will include presentations from an array of site and HQ representatives in areas such as cost estimating practices for weapons and captial acquistion projects, innovative data analysis methods, policy and guidance updates, and risk management improvements. This event will continue to provide an excellent learning platform to share and grow in the areas of cost estimating .

The value of cost estimating is undeniable to the daily investment we make as stewards of nuclear deterrence and as public servants in the national interest. We truly hope you also find value at this year's symposium.

The Cost Estimating Analysis Group (CEAG) is the nuclear security enterprise (NSE) wide working group sponsored by the National Nuclear Security Administration (NNSA) with membership from every nuclear weapons design and production agency. It is the principal source for cultivating experience and excellence in programmatic cost estimating across the NSE and operates through collaboration and innovation. CEAG has established several working groups such as the Historical Data Working Group and Modeling Working Group where federal and site analysts can openly communicate and share best practices, and also sponsors the annual Cost Estimating Community of Practice (CECOP) symposium.

CEAG seeks to *lift all boats* across the NSE, and is based on the following principles:

- Emphasis on enterprise-wide collaboration and participation from all NSE sites
- Mutual respect, transparency, and honest dialogue
- Sites negotiate their deliverables, resources, and intellectual property issues
- Encourage innovative approaches with potential to develop insight and confidence in results

CEAG is comprised of representatives across the NSE and chaired by the Office of Programming, Analysis, and Evaluation.

2022 CEAG Council Members and Site Representatives include:

CEAG Council Members	Site	Site Representatives	Site
Cash Fitzpatrick, Chair	**NNSA**	Cameron Ayers	**KCNSC**
Eric White	**CNS**	Steve Blake	**KCNSC**
Megan Ladwig	**KCNSC**	David Parobek	**LANL**
Tri Duc Tran	**LANL**	Brian Temple	**LANL**
Carol Meyers	**LLNL**	Tanya Moore	**LANL**
Casey Hulet	**NNSS**	Veronica Garza	**LLNL**
Jonell Samberson	**SNL**	Chris Adams	**LLNL**
Jason Wilson	**SRS**	Krista Lathery	**NNSS**
CEAG Support Personnel	**Site**	Phil Chamberlin	**SNL**
Synthia Pereyra, Detailee	**NNSA**	Duff Lill	**SNL**
Maura Lapoff	**NNSA**	Chris Nesbit	**SNL**
		Carter Hopkins	**SRS**

The Cost Estimating Community of Practice (CECOP) event is NNSA's annual symposium focused on the exchange of best practices, methodologies, and community building across the nuclear security enterprise. It provides a collaborative forum for cost estimating and related practitioners to share best practices and innovative approaches across its government and industry partners. CECOP symposiums include cost estimating and related professionals from NNSA, Department of Energy, Department of Defense, National Aeronautics and Space Administration, National Reconnaissance Office, and U.S. Government Accountability Office.

The Cost Estimating Analysis Group (CEAG) oversees CECOP and is governed by a Council chaired by the Office of Programming, Analysis, and Evaluation with membership representation from every site across the nuclear security enterprise. CEAG aims to improve programmatic cost estimating through joint projects and working groups where federal and site analysts can openly collaborate. CEAG Council Members are actively involved in CECOP, including nominating members to serve on the CECOP Planning Committee which is responsible for planning the annual symposium and organizing various information exchange meetings and educational opportunities throughout the year.

2022 CECOP Symposium Planning Committee includes:

2022 CECOP Symposium Planning Committee Members			
Synthia Pereyra	**NNSA**	Phil Chamberlin	**SNL**
Maura Lapoff	**NNSA**	Cameron Stern	**LANL**
Kathy Lane	**SNL**	Chris Nesbit	**SNL**
Hannah Goldstein	**LLNL**	Amie Riemann	**KCNSC**
Terry Mantle	**LLNL**	Donovan Ray Olvera	**SNL**
Jenna Casias	**LANL**	David (Shane) Farris	**CNS**
Chuck Luce	**SNL**	Anita Dotson	**SNL**

If you are interested in helping plan the next CECOP Symposium please reach out to a Planning Committee Member from your site or email to: cecop@nnsa.doe.gov

KEYNOTE SPEAKER

Day One — August 2

James McConnell

Associate Principal Deputy Administrator
National Nuclear Security Administration

James McConnell has held the position of Associate Principal Deputy Administrator since December 2021. He is a member of NNSA's executive leadership team, providing advice to the Administrator and Principal Deputy Administrator on programmatic and policy issues.

Previously, Mr. McConnell was Associate Administrator for Safety, Infrastructure and Operations, where he was responsible for overall NNSA safety activities, operations, infrastructure, capital planning, packaging and transportation, nuclear materials integration, and sustainment and environmental programs for the National Security Enterprise. In addition, he was NNSA's Central Technical Authority responsible for safety policy and interpretation throughout NNSA.

Before that, Mr. McConnell was the Deputy Associate Administrator for Infrastructure and Operations. He held several positions within NNSA's Office of Defense Programs, including Assistant Deputy Administrator for Nuclear Safety and Operations.

Mr. McConnell was NNSA's first Chief of Defense Nuclear Safety. In that position, he established the office and its functions.

Prior to joining NNSA, Mr. McConnell held several senior staff positions at the Defense Nuclear Facilities Safety Board including Deputy Technical Director, Group Leader for the Nuclear Weapons Program, and Site Representative at the Pantex Plant.

A former U.S. Navy submarine officer, Mr. McConnell holds a bachelor's degree in electrical engineering from the U.S. Naval Academy and master's degrees in engineering from the Catholic University of America and George Washington University.

KEYNOTE SPEAKER

Day Two — August 3

Krystyna M.A. Kolesar

Assistant Deputy Chief of Staff, G-8
Headquarters, Department of the Army

Selected to the Senior Executive Service in November 2003, Krystyna Kolesar assumed her present position as the United States Army's Assistant Deputy Chief of Staff, G-8, in December 2020. She brings experience working for the U.S. Navy and the Office of the Secretary of Defense. In her current position, she is responsible for Army Programs, Force Development, and the Center for Army Analysis. In this capacity, she is the principal advisor to the G-8 with responsibility for providing professional advice on key issues to include formulating plans and programs, acquiring resources, developing communication networks, executing operations, and evaluating results.

Ms. Kolesar's previous assignment was the United States Army's Deputy Director, Program Analysis and Evaluation Directorate, Headquarters Department of the Army, Deputy Chief of Staff, G-8. Since January 2013, her broad responsibilities covered the full breadth of all Army program efforts and involved independent analysis, development, integration, reporting, and defense of the Army Future Years Defense Program. She was instrumental in aligning the Army's programs and funding to support strategic priorities, transformation objectives, and urgent operational needs of the Army and the Department of Defense.

She also served as the Director, Force and Infrastructure Analysis Division, Office of the Secretary of Defense, Cost Assessment and Program Evaluation from November 2003 to January 2013. Previously, she operated in the resource allocation arena across all Military Departments. Ms. Kolesar also led the Partnership-for-Peace teams to Uzbekistan, Hungary, Czech Republic and Slovakia. She was selected as a U.S. Exchange Officer for the Department of Defence, Canberra, Australia.

Ms. Kolesar graduated Cum Laude from the University of Pittsburgh, School of Engineering. While on scholarship, she completed economics coursework at University College, Oxford University in England. She received her M.B.A. from George Washington University, Washington D.C.

CECOP SYMPOSIUM • DAY 1 SCHEDULE

AUGUST 2, 2022

Day 1 – BALLROOM

7:30am – 8:30am **Check-In**

8:30am – 8:35am **Welcome and Opening Remarks**

8:35am – 9:30am **Keynote Speaker**
James McConnell
Associate Principal Deputy Administrator
National Nuclear Security Administration

	Day 1 – Ballroom	Day 1 – Annex
9:30am – 10:15am	**Strategic Roadmap for Programmatic Cost Estimating** ***Cash Fitzpatrick*** The Cost Estimating Analysis Group, chaired by NNSA's Office of Programming, Analysis, and Evaluation (PA&E), finalized its Strategic Roadmap for Programmatic Cost Estimating for the nuclear security enterprise in 2022. Cash will discuss how the document defines the analytical community's long-term vision for the NSE, including the Council's goals and desired end state for programmatic cost estimating.	
10:15am – 10:45am	**Using Technology Readiness Levels to Predict the Future of Nuclear Weapons** ***M. Michael Metcalf, Abby Schendt, and Raymond Vera*** Technology Readiness Levels (TRLs) are used to measure and assess technology maturity. Michael, Abby, and Raymond will present innovative research demonstrating how historical TRL data can be used to perform credible, data-driven schedule analysis for programs early in development.	
10:45am – 11:00am	**BREAK**	
11:00am – 11:30am	**An Evaluation of Stockpile Stewardship and Management Plan Cost Estimates** ***Amanda Wright*** This presentation will examine the variance in publicly available cost estimates of the B61-12 Life Extension Program (LEP) and the W88 Alteration (Alt) 370 published in the SSMP from 2011 to the present. Cost estimates over several phases of the B61-12 LEP and the W88 Alt 370 will be compared to historical costs.	**Implementing Quantile Regression for Capital Acquisition Project Estimating** ***Zachary Matheson*** National Nuclear Security Administration (NNSA) Office of Programming, Analysis & Evaluation is investigating the use of quantile regression on NNSA data to estimate project costs at various percentiles, instead of estimating the mean via traditional regression methods. Utilizing this methodology will provide a better understanding and quantification of the uncertainty inherent in the NNSA's capital project budgets, which are required to be budgeted at between the 70% and 90% confidence level.

CECOP SYMPOSIUM • DAY 1 SCHEDULE (CONTINUED)

AUGUST 2, 2022

	Day 1 – Ballroom	Day 1 – Annex
11:30am – 12:00pm	**B61-12 Cost Impact Exercise** ***David Parobek*** An analytical exercise will be conducted to study the impact of the B61–12 life extension program at Los Alamos. This program utilizes a multitude of the labs organizational bodies and capabilities—making it difficult to measure the total impact it has on the laboratory workforce, infrastructure, and equipment.	**Prediction Markets to Inform Risk Mitigation** ***Nathan Clough*** Research suggests that prediction markets can be—but are not always—more accurate than individual SMEs or organizations in forecasting outcomes. NNSA has a pool of SMEs across M&O Contractors and relies heavily on SME input for risk/schedule assessment. Could Prediction markets be utilized to elicit cross-site SME inputs with regard to risks on the program and help ensure mitigation strategies are focused on the most impactful risks?
12:00pm – 1:00pm	**LUNCH**	
1:00pm – 2:00pm	**Congressional Budget Office Estimates of the Costs of Nuclear Forces** ***Michael Bennett*** The Congressional Budget Office (CBO) has a long history of estimating the costs associated with nuclear forces and policies. In this presentation, the lead analyst on those reports will provide background on the CBO, describe the agency's role in supporting Congress, and discuss the data sources and analytical approaches used in performing the cost estimates. In addition, highlights and trends from recent CBO reports on the costs of nuclear forces will be reviewed.	**Datathon – Innovation and Teambuilding** ***Charles Loelius and Ali Housh*** The Office of Enterprise Modeling & Policy promotes innovation in cost estimating and other technical analyses within NNSA. In 2021, it conducted its first Datathon, an intensive multi-day event where analysts focused on a single project from start to finish, inspired by hackathons in programming space. In this talk, Charlie and Ali will present the process of establishing a datathon, lessons learned, and the ongoing work for the next Datathon. In particular, this will focus on the analytic products and teambuilding that the Datathon enabled and potential features other analytic organizations may want to incorporate.
2:00pm – 2:45pm	**W87-1 WDCR Lessons Learned** ***Nathan Clough, Carla Jordan, and Anthony Tyson*** Planning and executing the Weapon Design Cost Report (WDCR) for a major Modification Program is a complex, multi-team, multi-site, coordination effort. As the W87-1 SNL DA WDCR Lead, Basis of Estimate Lead, and DoD Integration Lead, Carla, Nathan, and Anthony plan to share lessons learned from prior programs and implementations on the W87-1, best practices, and challenges/lessons learned on the W87-1 to help future LEP/MOD WDCRs.	
2:45pm – 3:00pm	**BREAK**	

CECOP SYMPOSIUM • DAY 1 SCHEDULE (CONTINUED)

AUGUST 2, 2022

	Day 1 – Ballroom	Day 1 – Annex
3:00pm –3:30pm	**VEGA Cost Estimating Database** ***Omar Akbik, Alan Karickhoff, Mike Metcalf, and Raymond Vera*** In order to develop the NNSA independent cost estimates under 50 U.S.C. 2411, the Office of Cost Estimating & Program Evaluation (CEPE) routinely collects these data items from the program offices and the M&O contractors since 2015. In support of the data collection efforts, CEPE developed the VEGA cost estimating database that consists of a SQL server back-end with Tableau user interface architecture.	**NNSA Planning, Programming, Budgeting, and Evaluation** ***Richard Caballero*** Providing an introduction to the NNSA Planning, Programming, Budgeting, and Evaluation (PPBE) process, this course will include discussions about PPBE roles and responsibilities, PPBE as a continuous cycle, the distinction between DOE PPBE and DoD PPBE, how the PPBE process fits within congressional processes, and NNSA PPBE Policy (NAP-130.1) and related NNSA business operations policies (BOPs). *Note: This is a two hour presentation.*
3:30pm – 4:15pm	**Project Management Risk and Uncertainty Modeling and Simulation — Curating the Inputs for a Contingency Reserve Calculation** ***Michael Archibeque*** Michael will cover the question of "*Where do I begin?*" when developing a contingency reserve calculation in a project management context. Topics covered will include the numeric parameters to be collected from subject matter experts for uncertainty and discrete event risk quantification.	
4:15pm – 5:00pm	**W87-1 WDCR Joint Cost and Risk Analyses at FPO Levels** ***Ian Bailey, David Hulett, and Lorrie Tietze*** The W87-1 Warhead Modernization Federal Program Office (FPO) has applied many of the key requirements and activities needed to quantify the impacts of risks and uncertainties on both schedule and cost drivers as part of its Weapon Design and Cost Report (WDCR). WDCR is a key program planning deliverable essential to gaining approval to proceed from the Nuclear Weapon Council. This will be a summary level brief describing the key methods, data, calculations and review processes being used to reach the WDCR Management Reserve and contingency recommendations.	
	CONCLUSION OF DAY ONE	
5:00pm – 7:00pm	**OPTIONAL EVENING SOCIAL**	

CECOP SYMPOSIUM • DAY 2 SCHEDULE

AUGUST 3, 2022

Day 2 – BALLROOM

8:30am – 8:35am **Welcome and Opening Remarks**

8:35am – 9:30am **Keynote Speaker**
Krystyna M.A. Kolesar
Assistant Deputy Chief of Staff, G-8
Headquarters, Department of the Army

Day 2 – Ballroom

9:30am – 10:00am **Capital Acquisition Estimating Framework**
Kathleen Lane and Gabriel Sandler
The main purpose of the Capital Acquisition Estimating Framework (CAEF) was to provide clear and concise expectations for preparing a programmatic cost estimate for NNSA capital acquisition projects. The methods contained in the CAEF were identified as best in class methods from DOE, NNSA, the General Accountability Office, and other professional cost estimating organizations tailored to capital acquisition projects.

10:00am – 10:30am **Supply Chain Disruptions**
Shannon Mulligan
Global supply chain disruptions caused by the COVID-19 pandemic were unexpected and unplanned. This uprooted the global supply chain and sent companies scrambling to find products. The Supply Chain Risk Management team at Sandia National Laboratories is undergoing an initiative that aims to identify, mitigate, and communicate supply chain threats and disruptions to relevant customers so they can be properly addressed.

10:30am – 10:45am **BREAK**

Day 2 – Annex

CECOP SYMPOSIUM • DAY 2 SCHEDULE (CONTINUED)

AUGUST 3, 2022

	Day 2 – Ballroom	Day 2 – Annex
10:45am – 11:30am	**Stockpile is Where it Gets Real: Understanding an Essential Portion of the Full Weapon System Lifecycle** ***Derek Wartman*** This presentation will provide an overview of weapon sustainment scope and leverage current sustainment examples to bring increased awareness of important lifecycle considerations to the Cost Estimating Community of Practice.	**The Fundamental Principles and Application of Earned Value Management Metrics in Cost Estimating** ***Dana Blocksage*** Through practical and accurate cost estimating, forecasting necessary and expected resources for optimal project performance and outcomes can be achieved. The earned value management methodology integrates cost, schedule, and scope to measure project performance. Accordingly, Earned Value Management (EVM) and Cost Estimating go hand in hand. Yet, the metrics used in EVM and cost estimation are commonly misunderstood or underappreciated. Designed as a judgment-free learning session, powerful EVM metrics including TCPI, CPI, SPI, CV, and SV, will be broken down to their fundamental core.
11:30am – 12:00pm	**Using Simulation Modeling to Inform Resource Needs** ***Charles Carter and Andrew Romich*** Simulation models can be used to help facilitate understanding and analysis of complex logistics operations required for various systems, especially within the NSE. The models simulate planned future operations while collecting data on system performance. This presentation will highlight the benefits of one such modeling tool—FlexSim—using an example with notional data based on past work at Sandia National Laboratories.	**Using Linear Programming to Create Optimal Budget Scenarios** ***Cadence Doyle, Josh Gonzales, and Jenna Vandervort*** Cadence, Jenna, and Josh will discuss an analytical approach to create optimal budget scenarios. Using linear programming—an operations research technique—one will be able to mathematically derive the optimal way to spend dollars on the recapitalization of programmatic equipment.
12:00pm – 1:00pm	**LUNCH**	
1:00pm – 1:30pm	**Multi-Server Integrated Schedule Environment** ***Amy Danoff, Brandon Lespagnard, Donovan Olvera, and Devin Wyatt*** This presentation will explore how the current schedule alignment processes and maintenance of delivery/handoff date milestones occur between sites.	**Sandia Infrastructure** ***Jennifer Gonzales and Christopher Nesbit*** Sandia National Laboratories has implemented a consistent methodology which up to this point of time did not exist at this scale for facility and infrastructure need evaluation. The process now allows for a broader stakeholder engagement, more consistent project information development for decision making, and measurement tools to understand the breadth and depth of Sandia's infrastructure needs leading to increased understanding of the entire process for the participants. The process is continuously adapting to the previous cycles and has identified several areas of improvement.

CECOP SYMPOSIUM • DAY 2 SCHEDULE (CONTINUED)

AUGUST 3, 2022

	Day 2 – Ballroom	Day 2 – Annex
1:30pm – 2:00pm	**A Quantitative Method for Risk Tracking and EAC Management Through the Project Lifecycle** *David Grodzki* This presentation reveals a novel method for utilizing quantitative risk scoring throughout the project lifecycle to provide real-time prediction of project Variance at Completion (VAC), as well as potential schedule delays and resource exceedances. By providing direct, quantifiable data on how management reserve is likely to be expended, program leadership can dynamically allocate resources and fund programs in-need and minimize lost time organizing risk response.	**I^3– Impact of Infrastructure Investments** *Christopher Nesbit and Erika Taketa* The Impact of Infrastructure Investments (I^3) uses G2 Planning Module, Asset Module, BUILDER data, and new functionality questions to measure if planned investments will overcome infrastructure degradation. The pilot's success is based on a strong collaboration between four sites — Sandia National Laboratories, Los Alamos National Laboratory, Lawrence Livermore National Laboratory and Kansas City National Security Campus — identifying best practices and support from NNSA's Office of Infrastructure and Operations.
2:00pm – 2:30pm	**CSPER-C Escalation Sensitivity Study** *Jenna Vandervort* CSPER-C Cost Estimating Relationships are based off nineteen historical NNSA construction projects spanning from 1993 to 2017. To normalize the project data, an escalation index is used to convert all phased costs to a common base year. To understand the impact of this escalation index versus other indices, a sensitivity analysis was performed on the CSPER-C model.	**Analytical Hierarchy Process (Decision Analysis) for Recapitalization Project Prioritization** *John Bloodwood and Paul Ryan Kniss* The Weapons Infrastructure Planning Office of Los Alamos National Laboratory has been developing a Decision Science toolset with which to prioritize recapitalization projects. The current decision science tool used is a modified analytical hierarchy process (AHP) model, which is a type of multi-attribute decision analysis. This presentation provides an overview of the process, including a detailed walkthrough of the AHP model.
2:30pm – 2:45pm	**BREAK**	
2:45pm – 3:15pm	**A Case Study of United States Nuclear Weapons Experience** *Terry Josserand* Why do nuclear weapon modernization programs cost more and take longer than the original designs? This case study utilizes historic and projected United States nuclear weapon program lifecycle phase entrance and exit date data to develop a proxy measure of experience as an independent variable to the concept of learning within the Advocacy Coalition Framework to examine the question.	

CECOP SYMPOSIUM • DAY 2 SCHEDULE (CONTINUED)

AUGUST 3, 2022

	Day 2 – Ballroom	Day 2 – Annex
3:15pm – 4:00pm	**Mind your Ps and Qs: Escalation in the NNSA** ***Omar Akbik, Brian Flynn, Alan Karickhoff, M. Michael Metcalf, and Raymond Vera*** This presentation ventures to understand NNSA's unique labor and material environment and its relationship to the broader inflationary market. The authors establish a view of escalation history for the labor and materials markets in which the NNSA participates, focusing on nuclear construction, non-nuclear construction, and weapons programs.	**Categorical Variables in NNSA Cost Estimating Relationships** ***Charles Loelius and Zachary Matheson*** The NNSA Office of Programming, Analysis & Evaluation uses mathematical models to develop cost estimates for capital construction projects and other analyses. Charles and Zachary will demonstrate two ways of incorporating categorical variables into regression-based models: Label Encoding and One-Hot Encoding, and will discuss the assumptions, strengths, and weaknesses of each.
4:00pm – 4:45pm	**Using Machine Learning Techniques to Process Work Breakdown Structures** ***Maura Lapoff*** The National Nuclear Security Administration collects Work Breakdown Structure (WBS) data for Capital Asset Projects. This presentation will demonstrate how Natural Language Processing (NPL) can automate the process of identifying and classifying WBS elements used for Capital Asset Projects. NLP can improve the Cost Analyst's workflow by reducing time-consuming aspects of their work.	**Joint Project Schedule & Cost Risk Analysis Maturity Model** ***David T. Hulett*** This presentation starts with an overview of a broad Risk Analysis Maturity Model (RAMM) where the concept of qualitatively evaluating identified risks with probability and impact scores is first introduced as Level 1 inputs to a risk register and progresses through Level 5 quantitative analysis of risk impacts on both schedule and cost. This brief then showcases methods targeting the joint probability of cost and schedule reaching the same target of certainty rather than either of the targets considered individually.
4:45pm – 5:00pm	**Closing Remarks** **Adjourn Symposium**	

CECOP SYMPOSIUM • 2022 PRESENTERS

Omar Akbik

Project Manager, Technomics
Contracted to the National Nuclear Security Administration
Office of Cost Estimating and Program Evaluation

Omar is a project manager within the Data Analytics and Technology Solutions practice area. He is responsible for developing innovative tools and techniques for use in cost and economic analysis by his clients and their partner organizations. Omar has experience supporting a wide range of offices and programs throughout the defense and civilian federal space. Omar is a Certified Cost Estimator/Analyst, a PMI-Agile Certified Practitioner, and holds degrees in economics and finance.

Michael Archibeque

Computational Engineering Division, Systems & Policy Analysis Group
Lawrence Livermore National Laboratory

Michael is a Systems Analyst/Enterprise Modeler where he performs operations research, risk analysis, and builds mathematical models for applications across the DOE-NNSA complex. By degree, he is a Statistician with additional specialized training in Bio-Medical R&D. Prior to his current position, Michael was an Associate at an economics consulting firm, where he primarily worked on financial-economic litigation consulting on residential mortgage-backed securities related to the 2008 Economic Crisis. Michael also has several years of experience in the healthcare industry.

Ian Bailey

Contracted to National Nuclear Security Administration
Federal Program Office of Stockpile Modernization

Ian is a senior technical advisor with over 20 years' experience in the NSE. Since 2008, he has provided program management support and helped lead the formal acquisition cost estimate process for the W87-1 and W80-4. He also developed novel system-driven technology evaluation approaches to support NNSA technology funding evaluation across seven NSE Management & Operations Contractors. As a special team member, Ian evaluated NSE-wide cost estimation methods and more effective risk-adjusted nuclear stockpile planning approaches to improve cost and risk management performance. He graduated with honors in Economics from Harvard and has an MBA from Dartmouth's Tuck School.

CECOP SYMPOSIUM • 2022 PRESENTERS

Michael Bennett, Ph.D.

Analyst, National Security Division
Congressional Budget Office

During Michael's 16 years with the Congressional Budget Office (CBO), he has published numerous reports on missile defense, nuclear, and space programs, including *Approaches for Managing the Costs of Nuclear Forces 2017 to 2046, Options for Deploying Missile Defenses in Europe* and *Alternatives for Military Space Radar*. In addition, Michael has been the primary analyst for CBO's estimates of the 10-year costs of nuclear forces, authoring the initial publication and four biannual updates. Prior to joining CBO, he held research positions at the CNA Corporation, UC-Berkeley Space Sciences Laboratory, and Los Alamos National Laboratory. He holds a Ph.D. from Yale University in nuclear and particle physics and a B.S. in physics from North Carolina State.

Dana Blocksage

Project Manager II & Master Scheduler,
Longenecker & Associates
Contracted to Sandia National Laboratories

Dana is a Project Controls Specialist and has worked as a Project Manager, PMO Manager, and Project Controller in the private and public sectors for more than a decade. As a Project Manager, Master Scheduler, and Subject Matter Expert, he primarily supports the laboratories efforts at Sandia/CA. He holds an M.B.A. from West Texas A&M University, six PMI certifications, and four from AACE—including Earned Value Management Professional. He is pursuing a D.B.A. in Project Management from Liberty University.

John Bloodwood

R&D Engineer
Los Alamos National Laboratory

John is an R&D Engineer in the Process Modeling and Analysis Group (E-2) at LANL. He has previously worked at Argonne National Laboratory as a computational research aide in the Global Security Sciences Division. John has worked on multiple decision support projects that blend his process modeling and economic analysis skillsets. He received his Ph.D. in Environmental Engineering from Clemson University in 2020 where his dissertation explored Ecological Economics modeling strategies, including methods to quantify the environmental impacts of supply chains throughout the U.S. economy.

CECOP SYMPOSIUM • 2022 PRESENTERS

Richard A. Caballero

Senior Budget Analyst, Leidos
Contracted to the National Nuclear Security Administration
Office of Stockpile Management

Rich has 28 years' experience working for National Defense and Security contractors. Since 2013, Rich has been a Senior Budget Analyst for NNSA's Office of Stockpile Management as a Leidos contractor. From 1996 to 2010, Rich worked at Los Alamos in program support roles, including a three-year Change of Station assignment to NNSA. Prior to 1996, Rich supported other DoD and DOE contracts. He holds a B.S. in Accounting from Montclair State University and holds two M.A. degrees in Russian History from University of Colorado, Boulder and Brown University.

Charles Carter

Principal Member of Technical Staff
Sandia National Laboratories

Charles served 20 years in the USAF, entering as an enlisted member at age 18 and retiring as an officer with assignments as an astronautical engineer and reliability engineer. His work assessing the reliability of complex aircraft and space systems required the use of simulation models, leading to a post military career focusing on modeling and simulation. Charles was the lead developer for the simulation engine of the commercial reliability tool Raptor for 10 years, before transitioning to a position at Sandia National Laboratories as a computer science researcher. At Sandia, he has used simulation to assess system performance across multiple domains including support to DHS, DoS, DoD, and the NNSA. Charles has a B.S. in Aeronautical and Astronautical Engineering from the University of Illinois at Urbana Champaign, and a M.S. in Systems Engineering from the Air Force Institute of Technology.

Nathan Clough

R&D Systems Research Analyst
Sandia National Laboratories

Nathan researches prediction markets and their application. Previously, he was the Basis of Estimate (BOE) Lead on the W87-1 Leading internal BOE guidance, BOE Cross Site Task Team, and BOE cost comparison/validation efforts. Prior to the W87-1, Nathan was the Sandia Design Agency Finance Lead for the W80-4 Life Extension Program. He has also worked in the corporate sector as a Sr. Data Analyst for PayPal and Safeway, Inc. optimizing product adoption flow and customer targeting strategies. Nathan holds an M.S. in Agricultural & Resource Economics and a B.S. in Managerial Economics from the University of California, Davis.

CECOP SYMPOSIUM • 2022 PRESENTERS

Amy Danoff

Project Management Professional
Sandia National Laboratories

Amy is a Project Management professional with over 11 years' experience supporting Sandia's Nuclear Deterrence Modernization programs. A subject matter expert in project start up, EVMS, scheduling, cost estimating, and overall ND Project Management best practices, she helps solve complex problems under very aggressive timeframes and works effectively and collaboratively to drive the submission of deliverables. Amy is primarily involved in the B61-12 LEP, but has also supported the W88 ALT, Mk21, W80-4, and W87-1 programs.

Cadence Doyle

Lead Analyst, Technomics, Inc.
Contracted to National Nuclear Security Administration
Office of Enterprise Modeling & Policy

Cadence is a lead analyst at Technomics, using data science to create solutions for DOE and DHS clients. She is an analyst supporting the Office of Enterprise Modeling & Policy, assisting the Programmatic Recapitalization Working Group with data analysis and database management. Caydence graduated with a B.S. in Mathematics and Classical Studies from Dickinson College and has an M.S. in Mathematics and Statistics from Georgetown University.

Cash Fitzpatrick

Director of the Office of Programming, Analysis & Evaluation
National Nuclear Security Administration

Cash oversees a range of analytical and policy functional areas including programmatic cost estimating, analyses of alternatives, enterprise modeling, and planning studies in his role as Director of the Office of Programming, Analysis & Evaluation for NNSA. He previously worked for the Office of Cost Policy and Analysis, DOE's Renewable Energy programs, and the Office of Cost Analysis for the DOE-CFO. He holds B.S. and M.S. degrees in Environmental Engineering from Cal Poly and Massachusetts Institute of Technology, respectively.

Technomics
Better Decisions Faster

Brian Flynn, Ph.D.

Subject Matter Expert, Technomics Inc.
Contracted by National Nuclear Security Administration
Office of Cost Estimating & Program Evaluation

Brian supports national security efforts at Technomics' Arlington, VA headquarters. Brian is a recipient of the Department of Navy's Distinguished Civilian Service Award and ICEAA's Lifetime Achievement Award. He holds Ph.D., M.A., and B.A. degrees in Economics from Georgetown University and Virginia Tech and is a U.S. Marine Corps veteran.

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Jennifer Gonzales

Facilities Engineering Project Manager
Sandia National Laboratories

Jennifer has worked at Sandia for 15 years. She transitioned to the Capax Program Management group in 2021 from the Business Analysis and Financial Reporting department, where she performed data analysis and special projects. Prior to that, she was a Rates Analyst for nine years. The Capax Program Management group is responsible for project management of line item projects, stewarding the portfolio of capital investments, and developing consistent processes for following DOE O 413.3B. The group is also responsible for foundational facilities program management and processes that integrate facilities projects across planning, execution, and program requirements.

Josh Gonzales

Lead Analyst, Technomics, Inc.
Contracted to National Nuclear Security Administration
Office of Management & Budgeting

Josh supports the Programmatic Recapitalization Working Group (PRWG) within NNSA's Office of Management & Budgeting using data analytics and data visualization to present solutions. He holds a B.S. in Geographic Information Systems with a Minor in Remote Sensing and an M.S. in Geographic Information Systems from the University of Maryland.

David Grodzki

Weapons Infrastructure Project Engineer
Lawrence Livermore National Laboratory

David serves as a Project Engineer in the Defense Technologies Engineering Division where he manages the design and development of capital equipment, facilities, and infrastructure supporting various NNSA programs. He has over 15 years of experience as a project engineer across the industrial, aerospace, and defense sectors, and has contributed to advanced development efforts across both commercial and military product portfolios. At Rolls-Royce, David supported the F-35B LiftSystem® through Initial Operational Capability, participated in certification of the Trent1000-TEN engine, and served as Project Lead for Hybrid-Electric Propulsion Systems for the DARPA XV-24A and Airbus E-FAN X Power Generation Systems, the latter of which demonstrated the first megawatt-scale turboelectric generation. He subsequently worked as IPT Lead for Mechanical Systems, Externals & Nacelles at Pratt & Whitney, where he presided over design and qualification of an all-new externals package for the PW1100G Advantage engine.

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Ali Housh, Ph.D.

Office of Analysis & Evaluation
National Nuclear Security Administration

Ali was appointed as a National Nuclear Security Administration Graduate Fellow for the Office of Analysis & Evaluation during 2021-2022. The NNSA Graduate Fellowship Program (NGFP) identifies and develops the next generation of exceptional national security leaders to achieve the NNSA mission — Strengthening our nation through nuclear security. Ali holds a Ph.D. in radiochemistry, which she received from the University of Missouri in Columbia, as well as a B.S. in chemistry and biology from Heidelberg University.

David T. Hulett, Ph.D. FAACE

President, Hulett & Associates, LLC
Contracted to National Nuclear Security Administration
Program Analysis & Evaluation

David is recognized as a leader in developing concepts and methods for integrated quantitative project cost and schedule risk analysis and applying them on large commercial and government projects. He works with international companies developing software for schedule and integrated cost-schedule risk analysis using Monte Carlo methods. David was admitted as a Fellow of the Association for the Advancement of Cost Engineering (AACE) International in 2015 and received the Brian D. Dunfield Educational Service Award from AACE in 2018. He received his Ph.D. in Economics from Stanford University and his B.A. from the Special Program for Public and International Affairs (Woodrow Wilson School) at Princeton University.

Carla Jordan

Project Manager
Sandia National Laboratories

Carla was the Weapon Design Cost Report lead for the W87-1 for Sandia National Laboratories Design Agency. Carla has been at Sandia for 18 years, supporting numerous ND and non-ND programs, with her first major project being the Financial lead for the Z Machine Refurbishment project (413B). Prior to the W87-1 program, Carla worked on Space Nuclear Nonproliferation Detonation Detection as the GBD IIIF Project Manager. She previously served as the PM lead for the B61-12 LEP first Baseline Cost Report ahead of entry into 6.4. Carla holds an M.S. in accountancy from the University of New Mexico and a B.A. in Finance from New Mexico State University.

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Terry Josserand

Principal Technical Systems Analyst
Sandia National Laboratories

Over the past 13 years, Terry has been involved in developing and reviewing estimates and analyses for nuclear weapon systems, secure transporters, satellite programs, information systems, and many other national security efforts. Terry holds a B.S. in International Business, an M.B.A. from Oklahoma State University, and an M.S. in Organizational Management from La Universidad Popular Autonoma del Estado de Puebla. He recently completed the graduate program in International Security at Stanford and is currently pursuing his Ph.D. in Public Policy at the University of Oklahoma. Terry's recent interests are in comprehending the balance to both protect and share national security data in an evolving institutional, technological, and methodologically driven landscape.

Alan Karickhoff

Lead Analyst, Technomics, Inc.
Contracted to National Nuclear Security Administration
Office of Cost Estimating and Program Evaluation

As an analyst in the Energy Analytics-Based Program Management Practice Area (EAPM) at Technomics, Alan develops innovative program evaluation tools and databases to serve clients within the Department of Energy. He leverages previous experience as an economic analyst for the trucking industry and as a survey statistician at the U.S. Census Bureau. Alan holds an M.P.S. degree in Applied Economics from the University of Maryland, College Park and a B.A. degree in Economics from Dickinson College in Carlisle, PA.

Paul Ryan Kniss

Technical Project Manager
Los Alamos National Laboratory

Paul Ryan is a Technical Project Manager for the Process Modeling and Analysis (E-2) group at LANL. He has published several reports using an Analytical Hierarchy Process to organize and analyze complex decision alternatives. Ryan holds an M.B.A and a B.B.A. from the University of New Mexico.

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Kathleen Lane

Engineering Systems Implementation & Integration Professional
Sandia National Laboratories

Kathy has worked in project management since her first job out of college supporting government, civil, and private industry projects. Her support has included day-to-day cost and schedule operations, including earned value management. Kathy has also consulted on project management systems defining policy and procedures for new project management and business systems, and defining requirements, implementing, training, and providing system administration on project management software such as Microsoft Project and Oracle's Primavera as well as Computerized Maintenance Management Systems software.

Maura Lapoff

Senior Associate, Technomics, Inc.
Contracted to National Nuclear Security Administration
Office of Enterprise Modeling & Policy

Maura is an analyst at Technomics supporting the NNSA Office of Analysis and Evaluation. She was a 2020 Pacific Northwest National Laboratory NNSA Fellow and has experience in evaluation supporting DoD and USAID-funded projects. She was a 2015 Boren Scholar and is currently pursuing a master's degree in Interdisciplinary Studies at George Mason University concentrating in Computational Social Science. She holds a B.S. in Neuroscience from the University of Miami.

Brandon Lespagnard

Lead Project Manager
Kansas City National Security Campus

Brandon has been in the program/project controls profession for 15 years, serving the engineering, procurement, construction, and manufacturing industries. He spent seven years at Honeywell FM&T, beginning as a Program and Project Controls Analyst. Then as Master Scheduler for a large program there, he directed a team of analysts in schedule development, maintenance, and recover efforts on over 50 different Primavera projects. Brandon has spent the last five years with the Operational Excellence team in the Program Management Office at KCNSC, where he is a subject matter expert in Scheduling, Earned Value Management, Change Management, and is the Primavera EPPM Administrator. Brandon holds a B.S. degree in Construction Management from Kansas State University.

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Charles Loelius, Ph.D.

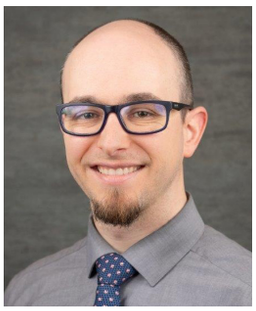
Manager, Office of Enterprise Modeling & Policy
National Nuclear Security Administration

Charlie is the manager of the Office of Enterprise Modeling & Policy within the Office of Analysis and Evaluation. He joined NNSA in 2017 as a member of the NNSA Graduate Fellowship Program and became Manager for Enterprise Modeling & Policy within the NNSA's Office of Management & Budget. Charlie has a Ph.D. in nuclear physics from Michigan State University and a B.S. in Philosophy, Physics, and Mathematics from Rutgers University.

Zachary Matheson, Ph.D.

Physical Scientist
National Nuclear Security Administration

In June 2020, Zachary moved into his current position in the Office of Programming, Analysis, and Evaluation, where he uses modeling and simulation to support NNSA planning and budgeting. He received a dual Ph.D. in Nuclear Physics and Computational Math, Science, and Engineering from Michigan State University in 2019. His dissertation research focused on predicting spontaneous fission yields of exotic nuclei. A highlight of Zachary's grad student career was giving a presentation on the element oganesson, the only element named after a living person, at a conference organized by Yuri Oganessian. As a graduate student, Zachary spent six months at Lawrence Livermore National Laboratory performing massive fission calculations on one of the lab's high-performance computers, which paved the way for him to join the NNSA after graduation as a NNSA Graduate Fellow in the Office of Advanced Simulation and Computing.



M. Michael Metcalf

Project Manager, Technomics, Inc.
Contracted to National Nuclear Security Administration
Cost Estimating Program Evaluation

Michael supports the Department of Energy, DoD, U.S. Army, DHS and NNSA in cost estimating and data-driven decisions. He previously worked at the Institute for Defense Analyses. Michael is a graduate of Lehigh University, earning a B.S. in Integrated Business and Engineering with a Business Economics focus and an M.S. in Industrial Engineering.

Shannon Mulligan

Supply Chain Analyst
Sandia National Laboratories

With five years of supply chain experience, Shannon brings a perspective that incorporates internal Sandia's requirements and the external industry point of view. She graduated from the University of Denver with an M.A. in Organizational Development and earned a B.B.A. from the University of New Mexico.

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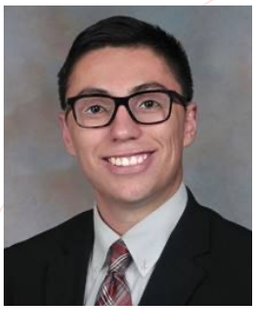
Christopher Nesbit

Site Strategic Planner
Sandia National Laboratories

Chris is a licensed and registered architect with nearly 30 years of experience, including over 15 years focused on science, technology, and government building sectors. He has worked the last nine years with Sandia National Laboratories as a Strategic Partnership Planner in the Facilities organization. The Site Planning and Partnership department partners with Program and Line Subject Matter Experts to evaluate the gaps between the program objectives and current state of health, propose strategic roadmaps of investments, and develop associated cost proposals for capability investment recommendations to NNSA, DOE, and other Federal sponsors.



Donovan Olvera

Project Manager
Sandia National Laboratories

Donovan is a Project Manager within Sandia's Deployed Project Management Services Group. Currently a member of the Strike Team, which entails providing project and program recovery support, he is currently matrixed to system level support on the W87-1. Prior to this role, Donovan was the lead system scheduler for the W88 Alt 370 DA and has provided project management support at the component level for the W80-4, B61-12, and W87-1. Donovan holds an M.S. in Project Management, an M.S. in Cybersecurity, and PMP Certification.

David Parobek, Ph.D.

Staff Scientist
Los Alamos National Laboratory

David works in the Stockpile and Enterprise Analytics Office where he is currently focused on determining the impact of programmatic work across multiple organizations at LANL. Previously, David began a Postdoctoral Directors Funded Fellowship at LANL with the Materials Physics and Applications division working on developing new synthetic methods for two dimensional ferromagnetic materials. He received his Ph.D. from Texas A&M University in 2020 where he specialized in the design of semiconductor nanocrystals for hot electron generation.

Andrew Romich, Ph.D.

Senior Member of Technical Staff, Systems Analyst
Sandia National Laboratories

Andrew has engaged in engineering analysis work for several NSE-supporting projects at Sandia over the past eight years, including a trade study for the future Mk21A Fuze. Notably, he has led development of the Concept of Operations documentation for the W88-0/Mk5 ALT 940 Systems Team, utilizing simulation model output to analyze a variety of logistics planning parameters for Integrated Surety Architecture deployed hardware. Andrew currently supports the NSE and Cost Analysis organization where he is involved in developing cost estimates for nuclear weapon systems. He has a B.S, M.S., and Ph.D. in Industrial and Systems Engineering from the University of Florida.

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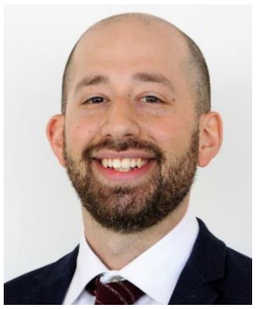

Gabriel Sandler, Ph.D.

Physical Scientist
National Nuclear Security Administration
Office of Program Analysis and Evaluation

After completing his Ph.D., Gabriel joined the NNSA's Office of Cost Estimating and Program Evaluation as a NNSA Graduate Fellow. After his fellowship experience, Gabriel joined the NNSA's Office of Programming, Analysis, and Evaluation. He has also interned at Sandia National Laboratories studying detection characterization of a neutron multiplicity counter and at the National Academies of Science working on the Committee on International Security and Arms Control. Gabriel holds a B.S. and Ph.D. in nuclear engineering from the University of Florida. As a graduate student, he worked on the utilization of X-ray Backscatter Radiography for nondestructive testing and radioactive plume tracking analysis for nuclear security purposes.

Abby Schendt

Analyst, Technomics, Inc,
Contracted to National Nuclear Security Administration
Cost Estimating Program Evaluation

Abby supports the NNSA in cost estimating and data driven decisions and recommendations. She previously worked at Rand Corporation on acquisition policy and support using modeling to inform policy recommendations. Abby is a graduate of the University of Maryland-College Park, with a M.P.S. in Applied Economics, and Rose Hulman Institute of Technology, with a B.S. in Physics, Mathematics, and Economics.

Erika Taketa

Infrastructure Data Integration Manager
Lawrence Livermore National Laboratory

Erika is the infrastructure data integration manager in the LLNL Office of Laboratory Infrastructure (OLI). OLI is responsible for developing the strategic planning of LLNL infrastructure needs, which are based on strong partnerships with LLNL mission programs. Erika is responsible for real property data and statistical analysis, data systems integration, and development of the NNSA MAP deliverables.

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Lorrie Tietze

Founder & Manager, Interface Consulting
Contracted to National Nuclear Security Administration
Federal Program Office of Stockpile Modernization

Lorrie has assisted clients in achieving and sustaining fundamental change and improved results for over 25 years. She has provided training and consulting to global Fortune 30 companies, Mid-Tier Companies, Government, and Not-For-Profit Organizations. Lorrie has trained thousands of people, in 28 countries, across commercial industries and state and federal governments in the processes, tools, and implementation of project analytics/controls and schedule/cost/joint risk analysis. She is a certified trainer for the Deltek Acumen Suite and for Oracle Primavera Risk Analysis. Lorrie has two degrees in nuclear engineering and has held operational, engineering, and project implementation positions with a multi-national Fortune 30 company.

Anthony Tyson

R&D Systems Engineer
Sandia National Laboratories

Anthony is the W87-1 DoD Integration lead and W87-1 WDCR technical schedule review lead. He has led various systems integration and full-scale development testing efforts for NNSA and Department of Defense Nuclear Weapon modernization programs. Anthony has become adept at effectively communicating among cross functional teams, customers, external partners, and government agencies. Before joining Sandia, Anthony worked as a Systems Engineer at Aerojet Rocketdyne designing and testing rocket engines for NASA and the DoD. Anthony holds a B.S. and M.S. in Mechanical Engineering from University of California Los Angeles and University of Southern California, respectively. Anthony is also a Licensed Professional Engineer in the State of California.

Jenna Vandervort

Analyst, Technomics, Inc.
Contracted to the National Nuclear Security Administration
Office of Management and Budgeting

Jenna is a senior associate at Technomics and has supported NNSA's Office of Management and Budgeting since the spring of 2021, using data analytics and statistics to support modeling and cost estimating capabilities. She graduated with a B.S. in Industrial Engineering and a Minor in Mathematics from Worcester Polytechnic Institute.

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Raymond Vera

Cost Supervisor
Office of Cost Estimating and Program Evaluation
National Nuclear Security Administration

Prior to joining NNSA at the Office of Cost Estimating and Program Evaluation, Raymond previously worked at the Defense Contract Management Agency as an earned value management specialist and Bank of America as a bond market quantitative analyst. Raymond has a B.S. in Industrial Engineering and Operations Research from the University of California, Berkeley, and an M.S. in Financial Engineering from Claremont Graduate University.

Derek Wartman

R&D S&E Systems Engineer
Sandia National Laboratories

Derek Wartman is a Distinguished Member of Technical Staff at Sandia National Laboratories, with 17 years of experience as a systems engineer in nuclear deterrence. Over his career, Derek has held several leadership roles across the enterprise including secure transportation, W78 stockpile systems, B61-3/-4 ALT 372 system integration, W80-4 system qualification, and W88-0/Mk5 ALT 370 systems engineering. Derek is also a 2011 graduate of the Sandia Weapon Intern Program. Derek currently works as a Technical Advisor to the Sandia New Mexico Stockpile Systems departments with a focus on cross-stockpile systems engineering and integration efforts.

Amanda Wright, Ph.D.

Senior R&D Systems Analyst
Sandia National Laboratories

Amanda is a plant network science and statistics based Subject Matter Expert with more than 15 years' experience delivering leading-edge research analytics and developing comprehensive systems initiatives to guide and inform industry practices at the state, federal, and global levels. Prior to joining Sandia, she was a program specialist with the Farm Service Agency (FSA) USDA in Albuquerque, NM. Amanda received her M.S. and Ph.D. in Plant Pathology from the University of Florida and her B.S. in Biological Sciences from Clemson University.

Devin Wyatt

Lead Project Manager
Kansas City National Security Campus

Devin has been in the program/project controls profession for 18 years, serving the construction, engineering, and manufacturing industries. He has supported Honeywell FM&T for the last five years, currently working with the Operational Excellence team in the Program Management Office, where he leads many projects that cross departments, organizations, and sites. These projects ultimately improve inter-organizational and intra-organizational processes and tools. Devin has a B.S. in Construction Management and an M.B.A. from Louisiana State University.

ACRONYMS • DEFINITIONS

AACE	Association for the Advancement of Cost Engineering
AHP	Analytical Hierarchy Process
ALT	Alteration
BOE	Basis of Estimate
CAEF	Capital Acquisition Estimating Framework
CBO	Congressional Budget Office
CCI	Construction Cost Index
CFO	Chief Financial Officer
CEAG	Cost Estimating Analysis Group
CECOP	Cost Estimating Community of Practice
CEPE	Cost Estimating and Program Evaluation
CNA	Center for Naval Analysis
CNS	Consolidated Nuclear Security
CPI	Complete Performance Index
CSPER-C	Cost, Schedule and Phasing Estimating Relationships - Construction
CV	Cost Variance
DA	Design Agency
DARPA	Defense Advanced Research Projects Agency
DHS	Department of Homeland Security
DoD	Department of Defense
DOE	Department of Energy
EAC	Estimate at Completion
EAPM	Energy Analytics-Based Program Management
ENR	Engineering News-Record
EPPM	Extended Parallel Processing Model
EVM	Earned Value Management
EVP	Earned Value Management Professional
FM&T	Federal Manufacturing and Technologies
FPO	Federal Program Office
GBD	Global Burst Detector
IIIF	Block III Follow-on
IPT	Integrated Product Team
KCNSC	Kansas City National Security Campus
LANL	Los Alamos National Laboratory
LEP	Life Extension Program
LEP/MOD	Life Extension Program/Modification
LLNL	Lawrence Livermore National Laboratory
M&O	Management and Operating
MAP	Master Asset Plan
MISE	Multi-server Integrated Schedule Environment
MPS	Master of Professional Studies
NA-MB-90	Office of Programming, Analysis, and Evaluation

ACRONYMS • DEFINITIONS

NASA	National Aeronautics and Space Administration
ND	Nuclear Deterrence
NGFP	NNSA Graduate Fellowship Program
NLP	Natural Language Processing
NNSA	National Nuclear Security Administration
NSE	Nuclear Security Enterprise
OLI	Office of Laboratory Infrastructure
PA	Production Agency
PA&E	Programming, Analysis, and Evaluation
PM	Project Manager/Management
PMI	Project Management Institute
PMO	Project Management Office
PRWG	Programmatic Recapitalization Working Group
PPBE	Planning, Programming, Budgeting and Evaluation
R&D	Research and Development
RAMM	Risk Analysis Maturity Model
RPAM	Real Property Asset Management
S&E	Systems and Engineering
SME	Subject Matter Expert
SNL	Sandia National Laboratories
SPI	Schedule Performance Index
SQL	Structured Query Language
SRS	Savannah River Site
SSMP	Stockpile Stewardship and Management Plan
SV	Schedule Variance
TCPI	To Complete Performance Index
TRL	Technology Readiness Levels
US	United States
USAF	United States Air Force
USDA	United States Department of Agriculture
VAC	Variance at Completion
WBS	Work Breakdown Structure
WCR	Weapon Cost Report
WDCR	Weapon Design Cost Report

ANNOUNCEMENTS

No-Host Evening Social & Networking Event at The Wharf

August 2nd from 5:00-7:00pm

The Wharf is DC's most popular dining and cocktail destination on the waterfront.

Please join us on Tuesday after the Day 1 CECOP Symposium from 5:00-7:00pm at one of many suggested establishments on The Wharf:

- Del Mar de Fabio Trabocchi (Spanish)
- Kaliwa (Asian)
- Kirwan's Irish Pub
- Lupo Marino (Italian)
- Pearl Street Warehouse (Bar & Tavern)

https://www.wharfdc.com/restaurants/

2023 CECOP Symposium

The Seventh Annual CECOP Symposium will be hosted by

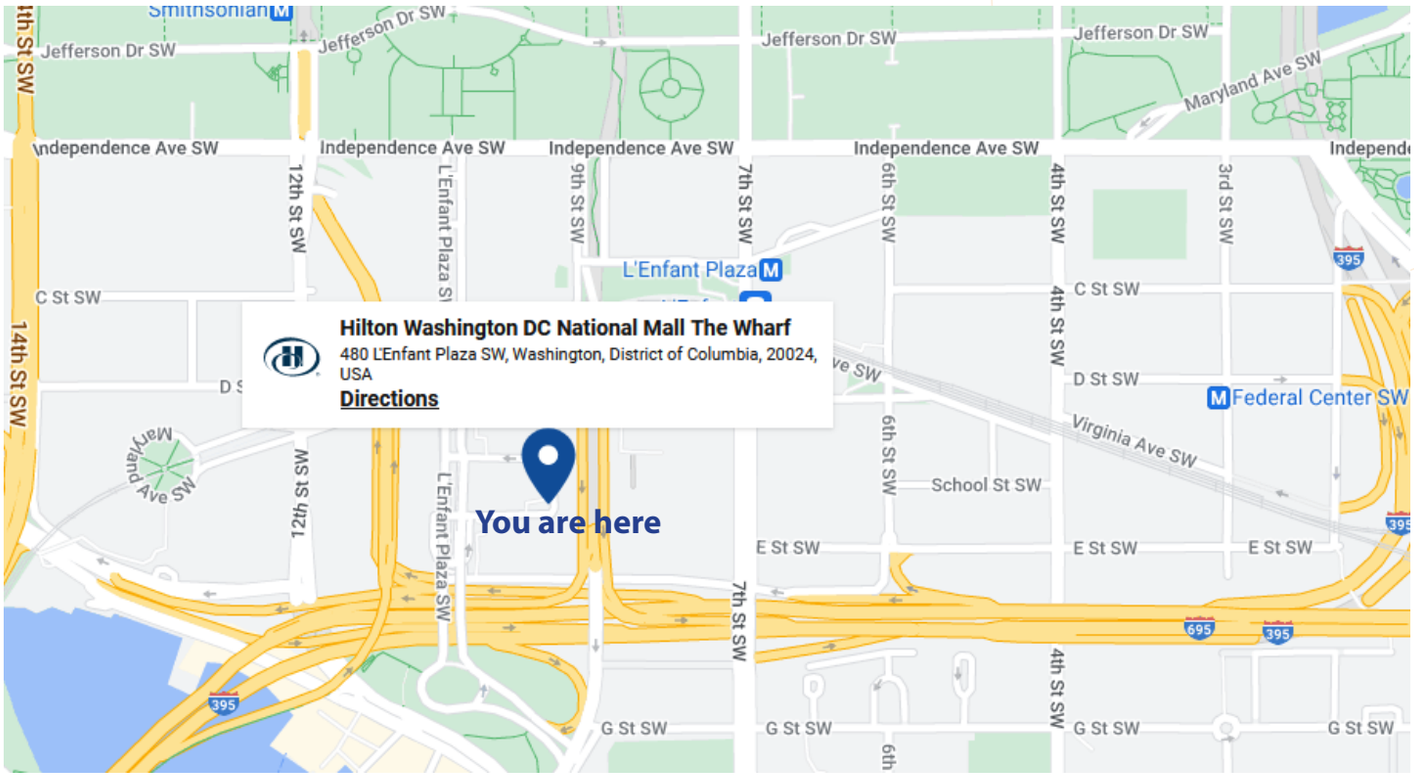
Lawrence Livermore National Laboratory in Livermore, California

August 2023

FOR RESCUE, MEDICAL RESPONSE OR FIRE EMERGENCY

Call 911 and provide the following Information:

- Type of emergency
- Location of the victim if applicable
- Condition of the victim if applicable
- Any dangerous conditions
- Do not move the individual unless authorized by a medical authority or it is obvious that delay in movement would be detrimental if applicable



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U.S. DEPARTMENT OF ENERGY

National Nuclear Security Administration

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