



2022 Arthur S. Flemming Awards Recognize Exceptional Federal Employees

WASHINGTON (October 30, 2023) – Thirteen exceptional federal public servants will be honored at the 74th annual Arthur S. Flemming Awards, presented on November 1 at the National Academy of Public Administration Fall Meeting. The winners are recognized for performing exceptional service in the fields of applied science and engineering, basic science, leadership and management, legal achievement, and social science.

“We continue to be inspired by these outstanding leaders who make such an incredible impact in the public interest,” said Kathryn E. Newcomer, President of the Arthur S. Flemming Awards Commission and Professor at The George Washington University Trachtenberg School of Public Policy and Public Administration. “We are extremely proud to celebrate the long history of the Flemming Awards; it plays an important role in recognizing those who make government work well for our citizens.”

Outstanding federal employees with 3-15 years of federal service are nominated by their agencies and selected through a competitive selection process. The awards are presented by the Arthur S. Flemming Awards Commission, in partnership with The George Washington University Trachtenberg School of Public Policy and Public Administration and the National Academy of Public Administration.

Established in 1948, the award is named after Arthur Sherwood Flemming, a distinguished government official who served seven presidential administrations of both parties, most notably as Secretary of Health, Education, and Welfare under President Dwight Eisenhower. He was a two-time recipient of the Presidential Medal of Freedom, first from President Eisenhower in 1957 and then from President Bill Clinton in 1994, two years before his death.

The Flemming Awards induction ceremony will occur on the first night of the three-day National Academy of Public Administration Fall Meeting on November 1, 2023 at 6:30 PM ET at the Grand Hyatt Hotel in Washington, D.C. The Flemming Awards will be preceded by an Awards reception at 5:30 PM ET. To register to attend the event, visit [here](#).

The 2022 Arthur S. Flemming Award recipients are:

Applied Science and Engineering

Dr. Edwin P. Chan, National Institute of Standards and Technology, U.S. Department of Commerce

Dr. Edwin Chan is recognized for his outstanding contributions to NIST and the Federal Government. He developed innovative measurement methods that advance our scientific understanding of polymer thin films and interfaces and deployed these methods to advance technologies with incredible societal importance. These successes stem from Dr. Chan's unique vision to identify the fundamental concepts of polymer chemistry and physics that underpin the continuum equations that describe the mechanical properties of polymers, thereby providing molecular design cues for creating new polymers with improved mechanical properties. His accomplishments have focused on two key areas of broad social importance: (a) water filtration membranes for desalination and clean drinking water and (b) impact-mitigating materials for protective equipment used by athletes, first responders, and soldiers. Dr. Chan has emerged as a leader in the field of polymer mechanics and is a critical interface between the academic research community and NIST stakeholders in industry and other government agencies.

Dr. Joseph Capobianco, Agricultural Research Service, U.S. Department of Agriculture

Dr. Joseph Capobianco, a research materials engineer with the USDA Agricultural Research Service, is transforming food systems safety through his innovative development of groundbreaking technologies that help defend against the risk of tainted food by contaminants by detecting and quantifying microbial contaminants. Through his innovative approach to solving complex problems, he revolutionized the ability to detect pathogens in a variety of settings. His work has significantly enhanced the ability of laboratory diagnostics to detect pathogens and streamline processes, thereby improving the efficiency and accuracy of investigations to protect the safety of domestic, imported, and exported foods. On a systems level, Dr. Capobianco has devised techniques and methodologies that are transferable to agriculture, medicine, pharmaceuticals, and even energy storage. Leveraging his multidisciplinary skills, Dr. Capobianco is transferring pragmatic solutions to stakeholders to resolve their requirements.

Dr. Sujay Kumar, Hydrological Science Lab, National Aeronautics and Space Administration

Dr. Sujay Kumar is internationally recognized as the lead developer for a land surface modeling and data assimilation, known as the Land Information System (LIS), which has been adopted by operational agencies around the world and has served as the software foundation for scores of past and current basic and applied sciences research projects. Agencies that employ LIS include the U.S. Air Force, NOAA, the U.S. Army Corps of Engineers, the Naval Research Laboratory, and the United Kingdom Meteorological Office. Dr. Kumar designed and installed advanced data assimilation modules within LIS that enable it to take in observations from multiple satellite remote sensors, including NASA's Soil Moisture Active Passive (SMAP), Gravity Recovery and Climate Experiment (GRACE) and GRACE Follow On (GRACE-FO), and Moderate Resolution Imaging Spectroradiometer (MODIS). He has also led or contributed to (as co-investigator) twelve applied sciences projects whose goals were to make NASA's remote sensing data useful for practical and socially relevant applications, including water resources and agricultural management, drought and flood monitoring, famine early warning, and weather and climate prediction.

Dr. Corey Love, U.S. Naval Research Laboratory, U.S. Department of Defense

Dr. Love's research in rechargeable battery safety is advancing the Department of Defense's (DoD's) capability for safely employing lithium-ion (Li-ion) batteries where the extreme conditions demanded by the military elevate risk of fire and explosion. Dr. Love gained critical insight into the failure mechanisms of lithium-ion batteries by developing a novel optical method for interrogating batteries in place. Building upon this knowledge base, he developed a simple test for ascertaining the health status of an individual battery or pack. Dr. Love's scientific contributions address the root causes of battery failure and provide the framework for mitigating risks, forecasting performance, monitoring health, and enabling advanced operational systems. As a leading battery safety expert, Dr. Love is engaged in coordinating and disseminating battery safety advances across the defense, energy, transportation, and space-related government agencies, generating key strategic documents on Li-ion battery safety, science and technology strategy, and supply chain challenges. His research has fundamentally changed the way the scientific field quantitatively characterizes batteries and is influencing how batteries will be utilized by the DoD in the future.

Dr. Andrew Metcalf, U.S. Air Force Research Laboratory, U.S. Department of Defense

Dr. Metcalf ingeniously applied his exceptional understanding of quantum and communication technologies to solve the Air Force need for Anti-Access and Area-Denial global positioning system-denied navigation and jam-resistant communication for our nation's next generation capabilities. To advance his positioning, navigation, and timing and communication technologies from the laboratory environment to real-world Department of Defense applications, Dr. Metcalf led a multi-pronged transition effort focused on creative solutions to overcome the technical hurdles for new technology using collaborations with National Aeronautics and Space Administration, National Institute of Standards and Technology, academia, and industry to provide the building blocks for three ground demonstrations and five space flight demonstrations. His extraordinary accomplishments have directly improved the operational effectiveness of the Air Force by providing a new generation of global positioning system and communication capabilities for the United States military. His tremendous leadership, engineering, and program management skills have distinguished him as a top performer within the United States Air Force. The distinctive accomplishments of Dr. Metcalf reflect great credit upon himself and the United States Air Force.

Dr. Holly Mortensen, Office of Research and Development, U.S. Environmental Protection Agency

Dr. Holly Mortensen has demonstrated a rare blend of expertise in high-tech toxicology with a passion for networking, accessibility, and public service to advance the science of chemical exposure and health risk. The computational tools she developed are revolutionizing the analyses of how chemicals can lead to adverse health outcomes by disrupting living cells and natural processes at the molecular level. Her work is ushering in a new generation of faster and less expensive methods for chemical safety analyses, while dramatically reducing the need for animal testing. Dr. Mortensen's innovative work integrates citizen science, web-based applications, machine learning, and artificial intelligence applications to enable users to understand the effects of chemical stressors at all levels. Her work has sparked major advances in understanding the health effects and environmental risks of high priority chemicals and emerging technologies such as nanomaterials. She has advanced scientific

discovery by harmonizing data from disparate sources, built bridges across scientific disciplines and administrative boundaries, and cultivated far-reaching partnerships--all aimed at advancing public health.

Dr. Natalie Pekney, National Energy Technology Laboratory, U.S. Department of Energy

Dr. Natalie J. Pekney utilizes her exceptional skills as an engineer and her lifelong interest in environmental stewardship to lead NETL's critical efforts to mitigate greenhouse gas emissions from oil and natural gas resources. Her groundbreaking research led to the development of mobile monitoring tools to effectively monitor emissions from conventional and unconventional production sites and transmission infrastructure. These tools have been instrumental in lowering the environmental footprint of fossil energy production and transportation while ensuring supplies of affordable energy for American homes and businesses. Dr. Pekney's expertise has also resulted in the development of technologies to locate the large number of orphaned or abandoned oil and gas wells that exist across the country and measure emissions of methane and other greenhouse gasses they emit. With this accurate data, state and federal agencies can take steps to plug their largest emitters of greenhouse gasses. Research advanced by Dr. Pekney and her team is not only addressing climate change; it is creating a sustainable clean energy future for the United States.

Leadership and Management

Dr. Sara Oliver, National Center for Immunizations and Respiratory Diseases, Centers for Disease Control and Prevention, U.S. Department of Health and Human Services

Dr. Sara Oliver has made outstanding contributions to the control of multiple vaccine-preventable diseases. In her seven years with CDC, her work in various roles throughout the agency contributed to national vaccine policy decisions and made an enormous impact on the control of HPV, H. influenzae, N. meningitidis, and SARS-CoV-2. Dr. Oliver's tireless efforts as lead of the Advisory Committees on Immunization Practices (ACIP) COVID-19 Vaccine Work Group over the past two- and one-half years were essential to the success of the national COVID-19 vaccination effort. She led discussions and presented at 33 public ACIP emergency meetings since June 2020, with recordings of those sessions viewed by 20,000-50,000 people. She also led 24 ACIP votes to set new COVID-19 vaccine policies for the U.S. She has been first or senior author for 17 Morbidity and Mortality Weekly Report (MMWR) Policy Notes summarizing recommendations for the use of COVID-19 vaccines. Throughout, Dr. Oliver led a multi-disciplinary team of medical officers, epidemiologists, communication specialists, and provided training to many fellows and junior staff. Her work has enabled more than 500 million COVID-19 vaccine doses to be administered, preventing over 25 million COVID-19 cases.

Basic Science

Dr. Michael Huber, National Institute of Standards and Technology, U.S. Department of Commerce

Dr. Michael G. Huber is recognized for his application of neutrons to fundamental problems in basic science. He has made novel contributions to quantum information science by

introducing structured neutron waves and neutron holography as tools to measure quantum coherence. He pioneered the development of new methods to determine structure factors of quantum materials and perfected high-precision neutron scattering-length measurements of isotopes to benchmark nuclear models and improve the theoretical understanding of atomic structure. He also produced the first direct measurement of the neutron charge radius, a fundamental parameter of nature, using neutron interference. Dr. Huber's work has set theoretical limits for extraordinary physics scenarios, such as the existence of a self-interacting field that might couple dark energy to matter and the existence of a new force of nature at the nanometer scale.

Legal Achievement

Major Logan Daniels, Office of the Staff Judge Advocate, U.S. Air Force, U.S. Department of Defense

Major Daniels led a team of eight judge advocates as the primary legal advisor to the 603d Air Operations Center through Operation Allies Refuge and the Ukraine crisis. His expert legal guidance resulted in unprecedented coordination on operational authorities with North Atlantic Treaty Organization allies to launch more than five thousand sorties to deter Russian aggression across the 1,500-mile eastern flank of Ukraine. Maj Daniels' leadership enabled critical coordination between his team, U.S. military components in the European Theater, the Department of State, and European partners to provide early warning intelligence and more than \$3 million in lethal and non-lethal aid to Ukraine. His integration with U.S. and Polish forces resulted in a seamless standard operating procedure between two U.S. Patriot missile batteries and Polish surface-to-air missile battalions that provided a critical defense capability for more than 6,000 people at a strategic logistics hub. Finally, Major Daniels led a 32-member team to develop rules of engagement and special instructions to ensure the protection of U.S. national security interests. The distinctive accomplishments of Major Daniels reflect credit upon himself and the United States Air Force.

Karen Bianco, Office of General Counsel, U.S. Environmental Protection Agency

Karen Bianco deployed her extraordinary and creative legal skills to establish a comprehensive new Agency program to phase down the production and consumption of climate-damaging hydrofluorocarbons (HFCs) in the United States by 85% by 2036. Immediately following passage of the American Innovation and Manufacturing (AIM) Act on December 27, 2020, Ms. Bianco was trusted to help lead a team across the U.S. Environmental Protection Agency to establish a regulatory framework to meet the law's aggressive deadlines. As the lead attorney on the team, Ms. Bianco interpreted the Agency's authorities and obligations with respect to the HFC phase down and addressed numerous issues of first impression as the team issued the first rule under the brand-new statutory authority under an extremely compressed time frame. Thanks to Ms. Bianco's outstanding and creative legal work, the Agency has established a strong foundation for the HFC phasedown. Because HFCs are highly potent greenhouse gasses used in many economic sectors, implementation of this landmark program will achieve significant benefits, especially for populations that may be especially vulnerable to climate change impacts.

Allison Holden, Office of General Counsel, U.S. Environmental Protection Agency

Ms. Holden played a pivotal role in devising the financial structure to support the settlement of the Gold King Mine release, resolving \$3 billion in claims against the U.S. Government under several environmental statutes and federal tort law. While leading all aspects of the federal tort claims of the litigation, she worked collaboratively with the U.S. Department of Justice, colleagues in multiple U.S. Environmental Protection Agency offices, and impacted states to identify funding sources and legal authorities that would allow for settlement of the case. The settlement would not have been possible without her perseverance, creativity, incredible command of complex facts, and extensive knowledge of the intersection of finance and environmental laws. Her expertise in the vast realm of appropriations law has profoundly furthered efforts to safeguard communities and protect human health and the environment.

Social Science

Dr. Courtney LaFountain, Applied Research and Methods, Government Accountability Office

Dedicated to the art of the possible, Dr. Courtney LaFountain is a leading expert in microeconomics with the Government Accountability Office's (GAO) Applied Research & Methods team who employs creative, sophisticated methods to deepen understanding of complex issues affecting our nation. Most notably, Dr. LaFountain demonstrated innovation and leadership by launching GAO's Emerging Risks Taskforce to support the agency's ability to provide Congress with reliable, high-quality information on emerging risks, starting with equity issues. She is an expert in equity methodology and conducts rigorous analysis of vulnerable populations' access to critical programs and services. She has also led teams that examined the effects of the U.S. government's expansive pandemic response and has been instrumental in GAO's work on financial market resilience and stability, social safety net program design, and public finance. Dr. LaFountain is lauded by her peers, leaders, and Congressional clients as an exceptional leader in her field whose work has profoundly enhanced GAO's ability to provide Congress with timely, credible information to better serve the diverse and ever-changing needs of the American people.

About the National Academy of Public Administration:

Chartered by Congress to provide non-partisan expert advice, the Academy is an independent, non-profit, and non-partisan organization established in 1967 to assist government leaders in building more effective, efficient, accountable, and transparent organizations. Learn more at www.napawash.org and follow the Academy on Twitter (@napawash), LinkedIn and Facebook.

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