NITRD News Brief

We are pleased to continue NITRD's News Brief that offers insight into the activities NITRD's member agencies are conducting to achieve the Nation's priorities through the lens of the public-facing news sources. These are divided into networking and information technology topics that have been identified as of great importance for improving Americans' daily lives.

For ease of access, under NITRD's logo, the title of each section is listed as a link to that section. The titles of the articles under the section's heading are links that provide immediate access to the news article listed. We hope you find this informative and helpful in your daily activities.

Do you know someone who would like to receive NITRD's weekly news brief? They can email NITRD's IT aficionados at nco@nitrd.gov and voilà they will receive the news brief with the cool technology articles each week!

NSF's New Directorate for Technology, Innovation and Partnerships Engines Development Program

Oregon State University is part of NSF's new Regional Innovation Engines program to advance semiconductor technologies in Northwest

...Oregon State University will spearhead a $1 million National Science Foundation project to advance semiconductor technologies in the Pacific Northwest. The effort led by Greg Herman, professor of chemical engineering in Oregon State's College of Engineering, is part of the NSF's new Regional Innovation Engines program. OSU will work with the University of Washington, Boise State University, the Oregon Business Council, the city of Hillsboro and more than 20 other partners on the two-year NSF Engines project. OSU will work with their partners to create clearer pathways to semiconductor careers and raise awareness of these opportunities among learners, families and educators. The goal of the NSF Engines program is to catalyze and foster innovation ecosystems across the United States while advancing critical areas such as semiconductors, artificial intelligence, advanced wireless and biotechnology. Oregon State is also part of two other NSF Engine projects: One focused on mass timber that's led by the University of Oregon, OSU's ongoing partner in the TallWood Design Institute, and another on smart grid technologies under the direction of Portland State University...
Oregon State University - May 11, 2023

Princeton selected to lead NSF-funded regional consortium for photonics research and workforce development with NSF Engines award

...A new Princeton-led collaboration to drive economic and technological advancements in photonics – the branch of science that includes lasers, optical fibers and cutting-edge light-based innovations – has been awarded a development grant from the U.S. National Science Foundation's Regional Innovation Engines (NSF Engines) program. The grant will lay the groundwork for a multistate collaboration called Advancing Photonics Technologies that aims to advance research, transition discoveries into the economy, and build the region's technological workforce. The collaboration includes universities and community colleges, leading photonics companies, statewide economic and workforce development programs, and technology accelerators and incubators that help transition research into startup companies. Photonics, which involves the control of light for use in technologies, has applications in healthcare, clean energy, computing, telecommunications, advanced manufacturing and more. It has the potential to improve cancer detection, food safety, smart phones, computing and self-driving cars, among other uses...

Princeton University - May 11, 2023

UT-led Coalition to Strengthen Tennessee's Innovation Economy with Funded NSF Engines Award

...The University of Tennessee, Knoxville, will lead a new statewide coalition funded by the National Science Foundation's Regional Innovation Engines program to help shape the future of mobility and usher in a new era of economic prosperity in Tennessee. Inspired by the increasing electrification and automation of transportation, the coalition of more than 90 organizations statewide will conceive of, invent and commercialize new transportation systems and technologies. The $1 million Advancing Technology-Enabled Mobility Solutions Regional Innovation Engines Development award will support the creation of a roadmap to outline a statewide transportation mobility strategy and assist Tennessee in competing for up to $160 million in federal implementation funding in 2025. Research and development goals will be developed for vehicle connectivity and security; the integration of complex systems and advances in computing power, sensors and analytics; more efficient and longer-lasting battery production; and new fueling infrastructure. New approaches will be identified to speed the transition of inventions from R&D to the market. "These NSF Engines Development Awards lay the foundation for emerging hubs of innovation and potential future NSF Engines," said NSF Director Sethuraman Panchanathan...

The University of Tennessee - May 11, 2023

Kentucky, Tennessee GAME Change team wins NSF Engines Development Award

...The University of Kentucky, as lead organization, together with partners across Kentucky and Tennessee, has been awarded $1 million from the U.S. National Science Foundation's Regional Innovation Engines (NSF Engines) program. This team's proposal, "Advancing carbon centric circular economy technologies for advanced manufacturing solutions," is led by a coalition named Generate Advanced Manufacturing Excellence for Change (GAME Change). The GAME Change team is among the more than 40 unique teams to receive one of the first-ever NSF Engines Development Awards. This Type-1 award provides two years of funding for planning to help partners collaborate to create economic, societal and technological opportunities for their regions, setting them up to pursue an NSF Engine Type-2 award of up to $160 million — the largest award ever offered by the NSF. The coalition of research, education, economic development, industrial and manufacturing leaders of the Southeastern Commerce Corridor (SCC) of Kentucky and Tennessee under GAME Change aims to create a diverse innovation and talent development hub that secures U.S. competitiveness in Next-Generation Manufacturing (NGM) and supply chain logistics, supports closed-cycle manufacturing to reduce waste and increases efficiencies across sectors including automotive, aerospace, energy, food and beverage, and materials...

University of Kentucky - May 11, 2023

Kansas State University partnership wins $1 million NSF Engines Development Award

...The Advancing Biosecurity, Biodefense, and Biomanufacturing Technologies project has been awarded $1 million from the U.S. National Science Foundation's Regional Innovation Engines (NSF Engines) program. The project team includes core partners from Kansas State University, Manhattan Area Technical College, BioKansas, K-State Innovation Partners and the Manhattan Area Chamber of Commerce. This development award will focus on biotechnology-based products within the biosecurity, biodefense and biomanufacturing sectors, with applications ranging from biopharmaceutical manufacturing to renewable energy and advanced materials. Another focus of the project is to streamline the process of discovery to commercialization for industry partners and ensure technological advancements achieve practical application and promote economic development. More than 25 partners supported the proposal and will be involved in the project. The NSF Engines program was launched by the NSF's new Directorate for Technology, Innovation and Partnerships and authorized by the CHIPS and Science Act of 2022. The program is a transformational investment for the nation, ensuring the U.S. remains in the vanguard of competitiveness for decades to come...

Kansas State University - May 12, 2023

MSU-led industrial innovation effort receives $1 million NSF Engines Development Award

...The Mississippi State University Advanced Research and Development Corporation has been awarded $1 million from the U.S. National Science Foundation's Innovation Engines program for the MSU-led initiative, "Advancing autonomous technologies for advanced manufacturing in Mississippi." The MSU-led NSF Engines Development Award aims to accelerate integration of Industry 4.0 smart and autonomous technologies through north Mississippi's diverse manufacturing economy. The goal of the project, dubbed SmartTech Mississippi, is to advance the regional manufacturing ecosystem by developing and integrating smart, autonomous technologies, positioning Mississippi to capitalize on technological advances in manufacturing and enhancing U.S. industrial competitiveness. The NSF Engines program uniquely harnesses the nation's science and technology

research and development enterprise and regional-level resources. It aspires to catalyze robust partnerships to positively impact regional economies, accelerate technology development, address societal challenges, advance national competitiveness and create local, high-wage jobs...
Mississippi State University - May 11, 2023

Montana State part of $1 million NSF grant to explore autonomous systems tech

...Montana State University is receiving roughly $180,000 of the two-year funding through NSF's Regional Innovation Engines program. The project will nurture the development and production of tools such as optical sensors that could be used to guide self-driving farm machinery and monitor crops. The project could lead to a much larger grant through the NSF Engines program to implement the group's recommendations. MSU's research on lasers and other optical tools goes back to the 1980s and has helped spin off dozens of local companies, including some now making sensors for guiding self-driving trucks, mapping invasive weeds and more. Those and related technologies could allow for drones suited to applications in agriculture, self-driving farming machinery and other tools that could benefit rural communities...
Montana State University - May 11, 2023

Federal Agency Funding Opportunities

Biden-Harris Administration Announces $50 Million To Boost Clean Energy Solutions and Cut Costs for Rural America

...The U.S. Department of Energy announced $50 million in new grant funding made available by the Bipartisan Infrastructure Law for community-based energy projects located in rural and remote areas across the country. Designed to recognize and address the distinct energy challenges faced by rural communities, this funding aims to increase energy affordability and promote climate resilience in areas with fewer than 10,000 people by supporting projects with a dollar amount of $500,000 to $5 million. Applicants are required to submit Community Benefits Plans to ensure benefits spread equitably across affected communities. These plans, now included across most DOE funding opportunities, are based on a set of four core policy priorities: investing in America's workforce; engaging communities and labor; advancing diversity, equity, inclusion, and accessibility; and implementing the Justice40 Initiative. The submission deadline for pre-applications is July 13, 2023, and full applications are due by October 12, 2023...
Department of Energy - May 11, 2023

Biden-Harris Administration Makes Historic, $11 Billion Investment to Advance Clean Energy Across Rural America Through Investing in America Agenda

...The Biden-Harris Administration today announced the availability of nearly $11 billion in grants and loan opportunities that will help rural energy and utility providers bring affordable, reliable clean energy to their communities across the country. Funding is available through two programs: (1) The U.S. Department of Agriculture (USDA) will be opening a Letter of Interest process for the Empowering Rural America ("New ERA") program, which makes $9.7 billion available to eligible rural electric cooperatives to deploy renewable energy systems, zero-emission and carbon capture systems. (2) USDA will also be opening a Letter of Interest process for the Powering Affordable Clean Energy (PACE) program, which makes $1 billion available in partially forgivable loans to renewable-energy developers and electric service providers, including municipals, cooperatives, and investor-owned and Tribal utilities to help finance large-scale solar, wind, geothermal, biomass, hydropower projects and energy storage in support of renewable energy systems. Rural electric cooperatives, including current and previous USDA borrowers, are eligible for funding. To apply, eligible entities must submit a Letter of Interest between July 31 and Aug. 31, 2023...
USDA APHIS - May 16, 2023

HHS/CDC: Centers for Outbreak Analytics and Disease Modeling

...This new CDC cooperative agreement will develop a network of innovators to design, prototype, test, and scale innovative capabilities for improving analytics, modeling and forecasting to support decision makers during outbreaks of infectious diseases (both known and newly emerging) in the United States. The purpose of this cooperative agreement program is to save lives through improving public health response to disease threats. The primary objective of the cooperative agreement is to enhance communication and collaboration between innovators, integrators, and implementers in analytic methods with public health partners at federal, state, territorial, local and tribal levels to improve outbreak response through outbreak analytics and disease modeling. Partnership and collaboration between academia, public health, health care and the private sector is at the core of this funding opportunity. Current Closing Date for Applications: Jul 14, 2023 Electronically submitted applications must be submitted no later than 11:59 pm ET...
grants.gov - May 16, 2023

HPC

New Water Treatment Technology Could Help Recycle Even Super Salty Waters

...In a new study, members of the National Alliance for Water Innovation (NAWI) research consortium analyzed an emerging form of reverse osmosis, called low-salt-rejection reverse osmosis. These novel systems could treat even highly salty water. But the design is so new it is still theoretical. The NAWI research team developed a mathematical model that could, with help from a supercomputer, quickly evaluate the cost, clean water output, and energy consumption of more than 130,000 potential system designs. Their results show that, in many cases, low-salt-rejection reverse osmosis could be the most cost-effective choice, potentially reducing the overall cost of producing clean water by up to 63%. The team needed to find out: How many membrane stages are optimal? How many recycling loops are needed? And how much cost and energy do those loops add? To answer these questions, researchers could calculate, individually, how much clean water each design could produce from waters with different concentrations of salt. With high-performance computing, in a few minutes, the team examined not one but hundreds of thousands of potential scenarios. Without a supercomputer, all those calculations would take about 88 days instead of one hour or even a few minutes...
National Renewable Energy Laboratory - May 15, 2023

Artificial Intelligence / Machine Learning

PCAST Working Group on Generative AI Invites Public Input

...The President's Council of Advisors on Science and Technology (PCAST) has launched a working group on generative artificial intelligence (AI) to help assess key opportunities and risks and provide input on how best to ensure that these technologies are developed and deployed as equitably, responsibly, and safely as possible. Generative AI refers to a class of AI systems that, after being trained on large data sets, can be used to generate text, images, videos or other outputs from a given prompt. Generative AI models can also be used for malicious purposes, such as creating disinformation, driving misinformation campaigns, and impersonating individuals. When used without safeguards, generative AI can stoke polarization, exacerbate biases and inequities in society, and, more generally, threaten democracy by making it difficult for citizens to understand events in the world. The PCAST Working Group on Generative AI aims to build upon existing efforts by identifying additional needs and opportunities and making recommendations to the President for how best to address them...
The White House - May 13, 2023

Machine Learning-Based Protein Annotation Tool Predicts Protein Function

...Microbes drive key processes of life on Earth. They affect global elemental cycles—the movement of carbon, nitrogen, and other elements. They also promote plant growth and affect the development of diseases. These roles are essential in every ecosystem. To engineer microbes for sustainable bioenergy and other bioproducts, scientists need a fuller understanding of the function of proteins and other molecules. Scientists infer the function of a protein by comparing it with reference databases of already characterized proteins. However, these comparisons are difficult and not scalable to massive databases. To address this challenge, scientists have applied machine learning to models that predict protein function. The result is the program Snekmer, which allows scientists to quickly model families of proteins. Researchers at Pacific Northwest National Laboratory, Baylor University, and Oregon Health & Science University developed Snekmer, a software tool leveraging redundancy of amino acid residue properties to reduce sequence space and using short protein sequence (kmer) features for machine learning to generate protein family models. Snekmer users can recode protein sequences into reduced alphabet kmer vectors and perform construction of supervised classification models trained on input protein families, or protein functional classification based on Snekmer models...
Department of Energy - May 17, 2023

ANL & academic scientists double down on machine learning to improve 3D printing

...A team of scientists from Argonne National Laboratory, Massachusetts Institute of Technology (MIT) and University of Chicago built a smart machine-taught network to detect defects in metal additive manufacturing. This development interests the nuclear industry because it can help with quality control of 3D printed parts. Researchers have been developing an approach for classifying pulsed thermal tomography (PTT) images using an irregular shape defect model. Because a limited number of images of defects can be acquired experimentally, the researchers use data augmentation and a generative adversarial network to increase the volume of an irregular shape defects database, effectively creating an AI-trained dataset. This allows the team to develop realistic defect shapes that they can use as input for simulated PTT images to train the CNN...
Argonne National Laboratory - May 11, 2023

NSF Supports New AI Institute for Agent-based Cyber Threat Intelligence and OperatioN

...The US National Science Foundation announced an investment of $140 million to launch seven new Artificial Intelligence Research Institutes across the country. One of the

seven new institutes will be established at the University of California, Santa Barbara, and includes 11 educational institutions – of which the University of Illinois Urbana-Champaign is one. The NSF AI Institute for Agent-based Cyber Threat Intelligence and OperatioN (ACTION) is a cutting-edge research center that aims to revolutionize the way mission-critical systems are protected against sophisticated cyber threats. The collaborative work will focus on developing intelligent agents that use complex knowledge representation, logic reasoning, and learning to identify and respond to breaches in a timely and scalable fashion. By integrating learning and reasoning, human-agent and agent-agent interaction, and strategic gaming and tactical planning, the institute aims to provide fundamental innovations in several AI domains...
News Bureau - May 11, 2023

NSF-funded researcher uses $1.4 million award to explore ethical AI in classrooms

...A Clemson University College of Education researcher is exploring how children in upper elementary school can learn how unethical decisions and design lead to AI applications that exclude people or even cause harm. Golnaz Arastoopour Irgens' CAREER project funded by the National Science Foundation will use $1.4 million to co-develop curriculum with teachers and target grades 3-5 in order to help students understand how AI works and how they can think critically about it. The curriculum that Arastoopour Irgens envisions brings the concepts to life by giving students a very sci-fi task in the classroom: teachers send their students to the future and ask them to report back on the flawed AI systems that they find. Arastoopour Irgens said that people of all ages tend to take AI at face value without considering the humans who designed it. The designers' biases – intentional or not – are baked into the way an AI or machine works. This can be problematic if a population of designers is homogenous, and the programming industry still skews white and male...
Clemson University - May 15, 2023

Montana State-led project receives $20 million award from NSF for prescribed fire research using machine learning and sensors

...A $20 million grant from the National Science Foundation to Montana State University and its partners will allow them to understand the behavior and social impact of prescribed fires by developing new technologies for real-time monitoring and advancing collaborative relationships between researchers and educators across the state. The project funded for five-years by NSF's Established Program to Stimulate Competitive Research (EPSCoR) will use MSU's expertise in optics and computer science to create sensors that can map the burnable fuels in forests and monitor fire behavior and smoke. A primary goal of this project is to develop a firm and predictive understanding of prescribed fire behavior so that fire managers will know where to burn, when to burn and how to reduce impacts of smoke on Montana communities. SMART FireS, an acronym for Sensors, Machine learning, and Artificial intelligence in Real Time Fire Science, is a statewide effort and will work with county, state and federal partners to ensure discoveries are translated into better informed practices and policies. The project calls for fuel- and fire-mapping sensors to be mounted to drones, with smoke monitors be positioned around a burn area. Those sensors will generate a tremendous amount of data, and the need to process that information in real-time will require developing small, embedded computers to operate the sensors. Processing the sensor data will also draw from the latest advances in machine learning. NSF's EPSCoR program emphasizes impacts beyond the technical research of the five-year project and this effort will have community engagement efforts, including developing K-12 lesson plans and educational resources...
Montana State University - May 15, 2023

Robotics / Autonomous Vehicles

U.S. Air Force Cadet team conducts robotics research

...A team of professors and cadets with the U.S. Air Force Academy's Warfighter Effectiveness Research Center, a directorate of the Department of Behavioral Sciences and Leadership, are striving to determine the practicality of incorporating a robot into operational Air Force missions. The cadet-driven research focuses on gathering data and developing solutions to integrate a Ghost Robotics Vision 60 robot into base defense. Senior and first-year cadets collaborate to define customer requirements for the robot by using the modeling software CATIA, or Computer Aided Three-Dimensional Interactive Application. Cadet 1st Class Micah Treptau, a coding specialist, and Cadet 1st Class Justin Harmon, a robotics technician, are measuring how much power the robot's battery uses based on weight, distance traveled and time in operation...
Air Force Link - May 16, 2023

WHOI now leads NSF-funded and NOAA-involved 30-year Oleander Project that uses sensors to monitor circulation in the Northwest Atlantic Ocean

...The National Science Foundation-funded Oleander Project a 30-year effort to monitor circulation in the Northwest Atlantic Ocean using data gathered from sensors mounted on or launched from a cargo ship that makes regular crossings of the Gulf Stream. The Oleander Project has provided a glimpse into the workings of a critical part of the ocean over a period of unparalleled change. The project is named after the cargo ship CMV Oleander, which is operated by Bermuda Container Line and makes weekly trips between Elizabeth, N.J., and Bermuda. Along the way, it crosses the Gulf Stream and other currents between the two ports that together, make up an important part of the Atlantic Meridional Overturning Circulation. This vast oceanic circulatory system influences climate and weather patterns across North America, Europe, and many other parts of the globe and may itself be undergoing change resulting from human impacts on the global climate and ocean system. The original research team worked with shipbuilders to

incorporate an acoustic Doppler current profiler (ADCP), which measures the velocity of water deep beneath the surface, into the construction of what became the second ship named Oleander. They also worked with the National Oceanic and Atmospheric Administration (NOAA) to add an automated system designed by WHOI engineers to launch expendable bathythermographs (XBTs) that make high-resolution measurements of the upper ocean while the ship was underway. Today, the third iteration of Oleander is similarly equipped with two ADCPs and an XBT auto-launcher, and together both ships have made more than 1,000 crossings of the Gulf Stream.
The Woods Hole Oceanographic Institution - May 16, 2023

Quantum

AFRL Quantum research advances 3C capabilities in future Air, Space and Cyber operations

...Dr. Soderberg, at AFRL's Information Directorate, and colleagues are advancing quantum technologies from the individual quantum bit or qubit, level to the system level, where different qubit types must interface. This work is helping the U.S. military to accelerate quantum research and development as first adopters of connected ultra-secure quantum communication. One type, called superconducting qubits, must be cooled to a level close to the absolute minimum temperature, around 15 millikelvins. That makes the inside of a quantum computer the coldest place in the universe, colder than outer space. The potential of quantum communication use by the military relies on its promise to enable 'ultra-secure' data communication, potentially creating more efficient and secure communication systems. In quantum communication a particle is entangled (perfectly correlated) with another qubit, so it can sense on the other qubit that a hacker has gotten in. These two properties of quantum mechanics superposition, and entanglement, make the system both tamper-proof and tamper evident. AFRL's Information Directorate has laid the groundwork for future quantum networking and distributed quantum computing applications. With advances in remote network connectivity nodes and the mapping of quantum information from individual trapped ions to photon-based qubits, the longer-term goal of distributing quantum entanglement between distance network nodes can enable secure quantum networks, ensuring that information is kept entirely safe...
Air Force Link - May 11, 2023

NSF-funded study reveals new ways for exotic quasiparticles to “relax”

...MIT researchers and colleagues could help pave the way for new kinds of devices that efficiently bridge the gap between matter and light. These might include computer chips that eliminate inefficiencies inherent in today’s versions, and qubits, the basic building blocks for quantum computers, that could operate at room temperature instead of the ultracold conditions needed by most such devices. The new work is based on sandwiching tiny flakes of a material called perovskite in between two precisely spaced reflective surfaces. By creating these perovskite sandwiches and stimulating them with laser beams, the researchers were able to directly control the momentum of certain “quasiparticles” within the system. Known as exciton-polariton pairs, these quasiparticles are hybrids of light and matter. Being able to control this property could ultimately make it possible to read and write data to devices based on this phenomenon. ... The work was supported by the National Science Foundation.
MIT News - May 12, 2023

Cybersecurity / Privacy

Cybersecurity Risk Mitigation for Small Manufacturers

...Many small manufacturers have limited resources and lack the staff and tools to adequately address cybersecurity needs – leaving them particularly vulnerable to cyberattacks. Because the manufacturing sector is a consistent target of these attacks, new guidance focuses on helping manufacturers enhance their cybersecurity resiliency. NIST’s National Cybersecurity Center of Excellence (NCCoE) manufacturing team recently published a white paper that introduces security segmentation as a cost effective and efficient approach for smaller manufacturers to mitigate their risk and increase resilience. Security segmentation protects assets by grouping them based on both their communication and security requirements. Information technology (IT) and operational technology (OT) assets used in manufacturing environments require varying levels of cybersecurity protection. The three pillars for security segmentation include security zones, trusted communication, and security controls. In the NIST white paper Security Segmentation in a Small Manufacturing Environment, the NCCoE manufacturing team presents an approach manufacturers can use in their own production environments. The paper walks through six steps using a sample manufacturing environment and shows each step’s output...
National Institute of Standards and Technology - May 12, 2023

Engineering in the cloud

...The U.S. Army Corps of Engineers (USACE) has the Civil Works Business Intelligence (CWBI) program continues to refactor Civil Works data and system assets to gain efficiencies, integrate resources, and reduce Information Technology (IT) maintenance and cost. USACE relies on the cloud infrastructure, cybersecurity implementation, and system engineering services CWBI provides to ensure critical data and analysis mission requirements are met. CWBI’s current purpose is to integrate Civil Works data in a

cloud-smart environment that standardizes data organization and management, ensures cybersecurity, delivers innovative technology solutions, rationalizes resources, and enhances visualization. As the first production cloud operating environment within USACE, CWBI has transitioned standalone applications to a cloud environment where levels of computational capacity, data management, data interconnectivity, and cyber security that were unattainable only a few years ago. CWBI also utilizes the cloud to innovate. When a new solution is necessary to support Civil Works, CWBI employs Software as a Service (SaaS), serverless technology, or containerized delivery using an agile approach instead of traditional servers, stand-alone software packages, and databases that require significant maintenance and attention. Now that so many Civil Works assets have migrated to the cloud, CWBI is proactively focusing on the data elements that reside there to ensure they are visible, accessible, understandable, linked, trustworthy, interoperable, and secure (VAULTIS)...
US Army Corps of Engineers - May 15, 2023

5G, Wireless Spectrum, Networking & Communications

Joint Statement on the U.S. Proposal to Identify the Use of 5G Mobile Services in the 3300-3400 MHz Band

...The U.S. Department of State, on behalf of the U.S. Government, is submitting a proposal to the May 2023 Inter-American Telecommunications Commission (CITEL) calling for the opening the 3300-3400 MHz band for 5G mobile services within the Americas Region. If accepted as a regional proposal, CITEL will submit to the November 2023 World Radiocommunications Conference (WRC-23). If adopted by the WRC-23, the international Radio Regulations would be updated to identify this band as possible for 5G use in the Americas by countries that choose to do so. The Department of Defense and the National Telecommunications and Information Administration jointly emphasize that our support for the U.S. CITEL proposal does not prejudice the results of the Congressionally directed study examining the feasibility of sharing the broader lower 3 GHz band or its recommendations about domestic use of the band.
U.S. Department of Defense - May 15, 2023

International Sea Level Satellite Spots Early Signs of El Niño

...The most recent sea level data from the U.S.-European satellite Sentinel-6 Michael Freilich indicates early signs of a developing El Niño across the equatorial Pacific Ocean. The data shows Kelvin waves – which are roughly 2 to 4 inches (5 to 10 centimeters) high at the ocean surface and hundreds of miles wide – moving from west to east along the equator toward the west coast of South America. When they form at the equator, Kelvin waves bring warm water, which is associated with higher sea levels, from the western Pacific to the eastern Pacific. A series of Kelvin waves starting in spring is a well-known precursor to an El Niño, characterized by higher sea levels and warmer-than-average ocean temperatures along the western coasts of the Americas. El Niño is also associated with a weakening of the trade winds. The condition can bring cooler, wetter conditions to the U.S. Southwest and drought to countries in the western Pacific. Both the U.S. National Oceanic and Atmospheric Administration (NOAA) and the World Meteorological Organization have recently reported increased chances that El Niño will develop by the end of the summer. Continued monitoring of ocean conditions in the Pacific by instruments and satellites such as Sentinel-6 Michael Freilich should help to clarify in the coming months how strong it could become...
National Aeronautics and Space Administration - May 11, 2023

Treasury Department Announces Awards to Connect More Families and Businesses to High-Speed Internet as Part of President Biden’s Investing in America Agenda

...The U.S. Department of the Treasury announced the approval of federal funds for multi-purpose community facility projects and broadband infrastructure projects in Delaware and Idaho under the American Rescue Plan’s Capital Projects Fund (CPF), part of President Biden’s Investing in America Agenda. A key priority of the CPF program is expanding economic opportunities and providing internet connectivity in communities with unmet needs. The CPF provides a total of $10 billion to states, territories, freely associated states, and Tribal governments to fund critical capital projects that enable work, education, and health monitoring. In addition to the $10 billion provided by the CPF, many governments are putting a portion of their State and Local Fiscal Recovery Funds (SLFRF) toward meeting the Biden-Harris Administration’s goal of connecting every American household to affordable, reliable high-speed internet. In accordance with the Treasury Department’s guidance, each state’s plan requires service providers to participate in the Federal Communications Commission’s (FCC) new Affordable Connectivity Program (ACP). The Affordable Connectivity Program, funded by President Biden’s Bipartisan Infrastructure Law, helps ensure that households can afford high-speed internet by providing a discount of up to $30 per month (or up to $75 per eligible household on Tribal lands). Experts estimate that nearly 40% of U.S. households are eligible for the program...
U.S. Department of the Treasury - May 15, 2023

Advanced Manufacturing

Make It Where You Need It: DOD's OSD Program Funds Technology to Enable Point-of-Need Manufacturing
...The Office of the Secretary of Defense Manufacturing Technology Program (OSD ManTech) has announced the winners of the first-of-its-kind "Point of Need Challenge Pitch Event" for solutions to support forward-deployed forces in austere environments. The challenge event featured 11 pitch presentations that had been selected from 63 concept papers submitted by the MIIs and reviewed by 72 DoD reviewers. The panel recommended six projects from five MIIs for approval by the director of ManTech. The projects cover three challenges: the Warfighter Medical, Health, and Nutrition Challenge; the Staying in the Fight Challenge; and the Cyber Challenge. OSD ManTech will invest nearly $2.5 million, while industry partners will contribute nearly $700,000 in cost share. The winners of the challenge are...
U.S. Department of Defense - May 12, 2023

Microelectronics

DARPA's HOTS program will develop microelectronic sensor technologies for extreme missions
...Sensors are deployed across countless commercial and defense systems, including in the oil and gas sector, the automotive industry, alternative energy sources, geothermal applications, and aviation and aerospace. The capabilities of sensors can be inhibited by thermal limitations. A sensor may theoretically be able to process inputs such as speed, pressure, or the integrity of a mechanical component, but inside a turbine engine, temperatures far exceed what any existing sensor can withstand. DARPA's new High Operational Temperature Sensors (HOTS) program will work toward developing microelectronic sensor technologies capable of high-bandwidth, high-dynamic-range sensing at extreme temperatures. Combinations of emerging materials, fabrication techniques, and integration technologies that inform new types of transistors and transducers, are among the potential approaches the HOTS program hopes to demonstrate as a sensor module...
DARPA - May 12, 2023

USGS Invests Millions in Critical-Minerals Mapping in Alaska
...The U.S. Geological Survey will invest more than $5.8 million to map critical-mineral resources in Alaska in partnership with the Alaska Division of Geological & Geophysical Surveys. This partnership is a key step in securing a reliable and sustainable supply of the critical minerals that are essential to everything from household appliances and electronics to clean energy technologies like batteries and wind turbines. The funding comes largely from a Bipartisan Infrastructure Law investment in the USGS Mineral Resources Program's Earth Mapping Resources Initiative (Earth MRI), which provides more than $74 million in new mapping funding each year to modernize our understanding of the Nation's fundamental geologic framework and improve knowledge of domestic critical-mineral resources both still in the ground and in mine waste. Overall, this act invests $510.7 million through the USGS to advance scientific innovation and map critical minerals vital to the nation's supply chains, national defense and economy...
USGS - May 17, 2023

Climate Change / Green Energy & IT

NOAA'S Climate Resources and Tools
...As the lead federal climate science agency, NOAA delivers research, data, services and solutions to help communities, tribes, federal, state and local agencies and the international community understand, mitigate, prepare for and build resilience to climate change. Climate.gov provides a Global Climate Dashboard that shows changes in temperature, sea level rise, ocean heat, snowfall, greenhouse gases and other indicators over time. NOAA's National Centers for Environmental Information's (NCEI) State of the Climate provides a monthly recap of climate-related events on national and global scales, tracking how heavier downpours, drought, severe storms and more impact a wide range of weather. NOAA's NCEI manages and maintains the nation's database for historical weather and climate information on local to global scales. NCEI offers the Climate at a Glance tool, which provides access to one of the most substantial public environmental data archives in the world. Heat.gov provides a go-to source for heat and health information, designed to reduce the health, economic and infrastructural impacts of extreme heat. Heat is the deadliest weather-related hazard in the U.S. Drought.gov is a one-stop shop for data, decision-support products, resources and information on drought, including tools to view current and future drought at the state and county level. NOAA's National Ocean Service produces regular updates on global sea level and national trends for high-tide flooding. NOAA's Digital Coast provides data, tools and training to help coastal communities prepare and adapt to impacts from sea level rise. Climate models are vital tools for improving the understanding and predictability of climate. NOAA's global climate models support national and international climate assessments. NOAA produces temperature and precipitation outlooks that predict temperatures and precipitation forecasts. Climate.gov and the U.S. Climate Resilience Toolkit provide case studies on how local communities and regions are building resilience and adapting to climate change. The Climate Explorer helps users access observed and projected climate trends for every county in the country, as well as over 500 digital tools including maps, data, videos and updates on climate impacts. [WOW! So many great climate related tools!]
National Oceanic and Atmospheric Administration - May 12, 2023

Two NASA Studies Find Lower Methane Emissions in Los Angeles Region

...Methane has a much shorter atmospheric lifespan than carbon dioxide – around 12 years, compared to centuries for carbon dioxide – but it absorbs much more energy while it exists in the atmosphere. Therefore, reducing human-caused emissions of the gas is a particularly effective way to make significant, short-term impacts on global climate change. Researchers at NASA's Jet Propulsion Laboratory used contrasting approaches to measure drops in human-caused emissions of the potent greenhouse gas methane in recent years in the Los Angeles region. In the first study, scientists analyzed data from ground-based sensors scattered around four counties in densely populated Southern California. They found emissions fell by about 7% between 2015 and 2020 – a reduction of 33 million pounds (15 million kilograms) of methane released per year. The second study, reserachers used data from a NASA airborne instrument and saw that most of the facilities they identified as methane sources in the earlier campaign were no longer emitting the greenhouse gas, leading to a 73% reduction in measured emissions...
National Aeronautics and Space Administration - May 15, 2023

Treasury Department Releases Guidance to Boost American Clean Energy Manufacturing

...To assist taxpayers in determining the applicable steel, iron, or manufactured product standards, the Treasury Department and the IRS are providing a safe harbor for certain types of clean energy projects, which was recommended by the Federal Transit Administration and the Department of Energy. Treasury welcomes input on how manufactured product components are classified, particularly as technologies, manufacturing processes, and supply chains evolve. While today's guidance establishes a safe harbor with specified classifications for certain manufactured products, Treasury is open to considering alternative approaches to classification, including a tax-specific, technology-neutral, principles-based approach. Guidance for the domestic content bonus is the next step in the first phase of the Treasury Department's implementation of the Inflation Reduction Act's clean energy provisions. Today's guidance follows a Notice of Proposed Rulemaking for the clean vehicle credit released in March and guidance for the bonus for clean energy projects and facilities located in energy communities, issued in April...
U.S. Department of the Treasury - May 12, 2023

New Electric Vehicle Suitability Assessment tool helps agencies transition fleets

...The Electric Vehicle Suitability Assessment (EVSA) tool is now available to federal agencies, the U.S. General Services Administration and telematics company Geotab announced today. The EVSA tool aims to save fleet managers time and resources by pinpointing which federal fleet vehicles can be replaced by an equivalent electric vehicle, based on function and range requirements. The tool is part of the telematics blanket purchase agreement GSA has with Geotab. The EVSA tool supports the Biden-Harris Administration's efforts to tackle climate change and the President's Federal Sustainability Plan to move the federal fleet to zero-emission vehicles, which includes acquiring only light-duty zero-emissions vehicles (ZEVs) by 2027 and medium- and heavy-duty ZEVs by 2035...
U.S. General Services Administration - May 17, 2023

Digital Health

President Biden Announces Intent to Nominate Dr. Monica Bertagnolli as Director of the National Institutes of Health

...President Biden announced his intent to nominate Dr. Monica Bertagnolli as Director of the National Institutes of Health (NIH), the world's preeminent biomedical research organization. Dr. Bertagnolli is a world-renowned surgical oncologist, cancer researcher, educator, and physician-leader who has the vision and leadership needed to deliver on NIH's mission to seek fundamental knowledge and promote human health. Dr. Bertagnolli is currently Director of the National Cancer Institute (NCI), the first woman to serve as NCI Director...
The White House - May 15, 2023

A Proclamation on National Women's Health Week, 2023

...During National Women's Health Week, our Nation recommits to improving the health and well-being of women and girls across America and encouraging them to make their health a priority. The White House officially observed its first National Women's Health Week in 2010, the same year we passed the landmark Affordable Care Act. This law ended the shameful practices of denying women coverage for pre-existing conditions and charging them more for health care simply because they are women. It extended crucial preventive care, like cancer screenings, to millions more Americans and expanded access to basic health services, like maternity care. My Administration is working to ensure that patients receive care during medical emergencies; safeguard patients' privacy and their sensitive health information. ... My Administration increased our investment in the Centers for Disease Control and Prevention's National Breast and Cervical Cancer Early Detection Program, which provides breast and cervical cancer screening and diagnostic services to those with low incomes who are uninsured or otherwise qualify for the program. We have also created the Advanced Research Projects Agency for Health (ARPA-H) to deliver new, innovative, comprehensive ways to prevent, detect, and treat cancer and other diseases...

The White House - May 12, 2023

NIH-funded study highlights the financial toll of health disparities in the United States

...New research shows that the economic burden of health disparities in the United States remains unacceptably high. The study, funded by the National Institute on Minority Health and Health Disparities (NIMHD), part of the National Institutes of Health, revealed that in 2018, racial and ethnic health disparities cost the U.S. economy $451 billion, a 41% increase from the previous estimate of $320 billion in 2014. The study also finds that the total burden of education-related health disparities for persons with less than a college degree in 2018 reached $978 billion, about two times greater than the annual growth rate of the U.S. economy in 2018. The health equity approach set aspirational health goals that all populations can strive for derived from the Healthy People 2030 goals. Key findings from the study included...
National Institutes of Health - May 16, 2023

Baylor College of Medicine receives NIH funding to study somatic mosaicism

...Somatic mosaicism occurs when somatic cells, or the body's non-reproductive cells, are genetically different from one another. Although somatic mosaicism can occur in all tissues and is known to lead to cancer, the extent of somatic mosaicism in human genomes and its full impact on human health is unknown. As part of a new National Institutes of Health Common Fund program called the Somatic Mosaicism across Human Tissues (SMaHT) Network, Baylor College of Medicine researchers received three grants totaling more than $17.8 million over five years to develop state-of-the-art tools to catalog the extent of somatic mosaicism in different cell types, tissues and life stages, to better understand how much somatic mosaicism influences human biology and disease. Along with the large-scale profiling endeavors from SMaHT Centers in the network, new methods for accurate detection of somatic mosaicism, especially at single-cell resolution, are greatly needed because somatic mosaicism is still challenging to study using traditional methods and platforms. ... A project led by principal investigator Dr. Fritz Sedlazeck, associate professor at the Human Genome Sequencing Center, will focus on developing novel computational methods for studying somatic structural variation based on long-read sequencing that use new algorithmic and machine learning approaches. The team will focus on the identification of transposon movement and their epigenetic consequences across the genome. To discover this, the team will innovate novel algorithms using long-read data...
Baylor College of Medicine - May 11, 2023

Other IT Related

OSTP Director Prabhakar Represents United States at G7 Science and Technology Ministerial Meeting

...From May 12-14, 2023, White House Office of Science and Technology Policy Director Arati Prabhakar represented the United States and Biden-Harris Administration as Head of Delegation at the Group of Seven (G7) Science and Technology Ministerial Meeting. The ministerial chose to engage on three topics of critical importance, which also align with Biden-Harris Administration priorities. Those overarching topics are: (1) Respect for freedom and inclusiveness in scientific research and promotion of open science. (2) Promotion of trustworthy scientific research through research security and research integrity measures. (3) International cooperation in science and technology to solve global issues...
The White House - May 15, 2023

FACT SHEET: Biden-Harris Administration Kicks off Infrastructure Week by Highlighting Tremendous Progress Rebuilding America's Infrastructure 18 Months In

...Just 18 months ago, President Biden signed the Bipartisan Infrastructure Law – a once-in-a-generation investment in our nation's infrastructure and competitiveness. President Biden is investing in America to deliver an "infrastructure decade." As part of the President's Investing in America agenda, the Biden-Harris Administration is rebuilding our roads and bridges, replacing lead pipes to provide clean water, cleaning up legacy pollution, expanding access to affordable, high-speed internet, and ushering in a new era of clean energy. Implementation of the President's Bipartisan Infrastructure Law is a key piece of his Investing in America agenda, which is growing the economy from the bottom up and middle out – driving over $470 billion in private sector manufacturing and clean energy investments in the United States. The Bipartisan Infrastructure Law makes the largest – and first – investment in EV charging with $7.5 billion in dedicated funding. The Administration has already approved all 52 EV charging state plans and unlocked over $2 billion in funding for all 50 states and territories to install EV chargers across tens of thousands of miles of highways as well as in communities, with the goal of making electric vehicles more accessible for Americans all over the country. ... The Bipartisan Infrastructure Law invests $65 billion to help ensure that every American has access to affordable, reliable high-speed internet through a historic commitment to broadband adoption and infrastructure deployment. Since the Bipartisan Infrastructure Law's passage, the Administration has worked to streamline the portfolio of complementary programs into a two-pronged strategy that focused most specifically on affordability and access and deployment. The Affordable Connectivity Program is the centerpiece of the Administration's affordability work...
The White House - May 12, 2023

DoD Announces Awards Under the Defense Established Program to Stimulate Competitive Research

...The Department of Defense announced $18 million in Defense Established Program to Stimulate Competitive Research (DEPSCoR) awards to 28 collaborative academic teams. DEPSCoR is a capacity-building program designed to strengthen the basic research infrastructure at institutions of higher education in underutilized states/territories. DEPSCoR allows us to tap into institutions that have enormous basic research capability – but have been underutilized by DoD – to enhance U.S. science and engineering research capacity both now and in the long term. The DEPSCoR Research Collaboration competition is open to tenured and tenure-track faculty members with appointments in the 37 states/territories eligible to compete for DEPSCoR funds. This competition helps introduce potential researchers to DoD's unique research challenges and supportive research ecosystem...
U.S. Department of Defense - May 10, 2023

IARPA Pursuing Breakthrough Biointelligence and Biosecurity Innovations

...The Intelligence Advanced Research Projects Activity (IARPA) — the advanced research and development arm of the Office of the Director of National Intelligence — recently launched a program to develop new innovations for tackling threats and advances inherent within the rapidly changing biointelligence and biosecurity landscapes. The program aims to create technologies that: * Enable biological material attribution and/or origination and new sensing modalities for austere environments and living systems; * Facilitate methods for improving biosecurity through cellular memory; * Lead to new capabilities to effectively and securely transfer biological data; * Detect and/or characterize highly-sensitive biomolecules and biological targets of interest; and * Strengthen digital and physical security of infrastructure, instrumentation, databases, and data associated with synthetic biology, biological samples, and biotechnologies...
Office of the Director of National Intelligence - May 16, 2023

NASA's Juno Mission Getting Closer to Jupiter's Moon Io

...NASA's Juno spacecraft will fly past Jupiter's volcanic moon Io on Tuesday, May 16, and then the gas giant itself soon after. The flyby of the Jovian moon will be the closest to date, at an altitude of about 22,060 miles (35,500 kilometers). Now in the third year of its extended mission to investigate the interior of Jupiter, the solar-powered spacecraft will also explore the ring system where some of the gas giant's inner moons reside. During its flybys of Jupiter, Juno has zoomed low over the planet's cloud tops – as close as about 2,100 miles (3,400 kilometers). Approaching the planet from over the north pole and exiting over the south during these flybys, the spacecraft uses its instruments to probe beneath the obscuring cloud cover, studying Jupiter's interior and auroras to learn more about the planet's origins, structure, atmosphere, and magnetosphere...
National Aeronautics and Space Administration - May 15, 2023

75 Years Ago: First Launch of a Two-Stage Rocket

...Today, multi-stage rockets regularly launch satellites into orbit, dispatch spacecraft to other worlds, and deliver crews to space stations. The first two-stage liquid-fueled rocket launch predated the Space Age by nearly a decade, taking place on May 13, 1948, at the White Sands Proving Ground (WSPG) in New Mexico. Combining German and American technology, the Bumper program put together a captured V-2 rocket as a booster with a WAC Corporal sounding rocket as an upper stage. The two-stage Bumper rockets reached altitudes never attained before, returning scientific information from that extreme environment. The story begins near the end of World War II when on April 11, 1945, American forces captured the German V-2 rocket production facility in the Harz Mountains, along with scientists and engineers and enough key components to build 100 V-2 ballistic missiles...
National Aeronautics and Space Administration - May 12, 2023

STEM / Workforce & IT

Biden-Harris Administration Roadmap to Support Good Jobs

...The Biden-Harris Investing in America Agenda is sparking a manufacturing, construction, and clean energy renaissance across the country. To help ensure America's workers can access the good jobs created by historic new investments, the Administration is aligning on a whole-of-government effort, the Roadmap to Support Good Jobs. The purpose of this collaborative vision is to build our workforce by ensuring every American—whether they go to college or not—will have equitable access to high-quality training, education, and services that provide a path to a good career without leaving their community. We must ensure students and workers at all stages of life have equitable access to education and training for good jobs in their communities. The roadmap focuses on four priorities: 1) connecting people to good jobs; 2) ensuring we have the skilled, diverse workforce for our transformational investments; 3) boosting education and training efforts so every community can meet its foundational labor needs; and 4) creating good quality, family-sustaining jobs, including union jobs...
The White House - May 16, 2023

AFRL, NASA partner with 8 universities for new Mission Concept Program

...The Air Force Research Laboratory and NASA announced their collaboration with eight universities for a new Mission Concept Program. The program will partner with NASA's CubeSat Launch initiative with joint efforts to alleviate typical high barriers to entry including full satellite development, aggressive cycles or schedules and competitive proposals, which will also prepare the participants for the next UNP nanosatellite cycle in 2024. Each proposal was chosen for its educational impact, university impact, minority outreach and Department of Defense and NASA relevance. While all universities are encouraged to apply, the Mission Concept Program is aimed at helping universities overcome the learning curve when entering the field of small satellite development. Under UNP, the selected universities will work in collaboration with AFRL and NASA to develop nanosatellites, which are small satellites typically weighing less than 10 kilograms. The students will have the opportunity to gain practical experience in various aspects of satellite development, including systems engineering, mission design, feasibility analyses and satellite design. The UNP will provide access to state-of-the-art facilities, resources and expertise from AFRL, and mentor the students as they develop small satellite mission areas, including earth observation, communications and technology demonstration. The UNP Mission Concept Program represents a significant milestone in advancing underrepresented universities and will provide hands-on experience in systems engineering, mission design, feasibility analyses and satellite design...
Air Force Link - May 12, 2023

AFIT's Cyber 200 course recalibrated with increased operational focus

...The Air Force Institute of Technology's School of Strategic Force Studies' Joint Intermediate Cyber Operations course was recently recalibrated to complement the tactical cyber content with an increased focus on operational specialties and the interaction between the two mission sets. Cyber 200 is an intermediate skills course to develop cyberspace professionals' capabilities and facilitate the transition from a tactical to an operational mindset while delivering a refresher on cyberspace tactics and an overview of joint planning and execution processes for cyber operations...
Wright-Patterson Air Force Base - May 12, 2023

CSUSB students excel at cybersecurity program for security in space

...As California State University, San Bernardino is about to wrap up its inaugural year as the first university in the Cyber Halo Innovation Research Program (CHIRP), its initial group of four students has made their mark in advancing the program created to develop and grow the cybersecurity workforce to build stronger, more flexible and secure space borne assets. The CHIRP program was created by the Pacific Northwest National Laboratory and the U.S. Space Force's Space Systems Command, which brings together government, industry, colleges and universities to provide students a direct two-year pathway to a cybersecurity career at SSC or their industry partners. Cal State San Bernadino is the first institution of higher education to join the program. CHIRP identifies students in their last two years of undergraduate studies who want to focus on becoming research scholars and upon graduation, they'll work either with a lab or at Space Force or potentially become one of their partners or people that work with them. Students who participate in CHIRP receive two years of intensive training designed specifically to equip them for careers protecting the nation's vital space-based technologies from cyber threats. The students complete a two-year fellowship, including tuition assistance, professional development and a compensated research experience. The students complete an internship between their junior and senior years and are hired when they graduate. Four CSUSB students worked as a team over the summer of 2022 to research and write a paper in the category of Managing Cyber Risk to Missions. The four students were invited to give a presentation of their research at the DoD UC2 Workshop held in the DoD National Defense University. The CSUSB students' paper took first place in their category, and they were invited to publish the paper in "Joint Forces Quarterly," which is the journal the Secretary of Defense reads (Pretty Cool Students!!)
CSUSB - California State University, San Bernardino - May 12, 2023

CSUSB holds 9th Annual GenCyber Summer Camp for Class of 2024 Rising Seniors

...Cal State San Bernardino's Cybersecurity Center will host a live, on-campus, free six-day 2023 GenCyber Summer Camp, inviting 30 high school students from inland Southern California. This year's camp theme is "Finding Your Cyber Career," and will feature CSUSB cyber student-led sessions highlighting National Institute of Standards and Technology (NIST) Cybersecurity Framework work roles available in the cyber industry. The approach this year is to introduce various cybersecurity professions to college-bound students while connecting the future job-seekers with Information Technology and cyber-related employers in the inland region who will be hosting "Power Hour" career mentorship sessions. Participating employers this year will come from the CSUSB IECI community development program that fosters the development of cyber talent from K-12 into full-time employment in the Inland Empire. GenCyber at CSUSB is sponsored by the GenCyber Grants Program of the National Security Agency, the National Science Foundation and other federal partners...
CSUSB - California State University, San Bernardino - May 11, 2023

Creating a career in cybersecurity, one course at a time

...Abbey Weyand began programming when she was only twelve years old. She eventually decided to pursue cybersecurity partly out of her interest in the profession but also because she believed it was the best way to help others. As interdisciplinary engineering student equipped with an extensive plan, Weyand had the unique opportunity to take courses in cybersecurity, forensic and investigative science, and law and policy, as well as engineering courses in computer science, industrial systems and electronic

systems. Weyand describes the “cloud” as a virtual way of holding data to keep files safe. Her study in the program involved learning about public versus private or hybrid clouds, finding vulnerabilities and learning how data is stored. She also found her preferred niche within cybersecurity’s broad field — law and policy documentation. Companies must stay within the parameters of these essential policies to remain accountable to their stakeholders and to provide secure services. “I like the governance side of cyber, especially because there are so many realms you can go into,” said Weyand. “‘Red team’ security professionals focus on simulating virtual attacks and reporting those results to businesses to improve their cyber defenses. ‘Blue team’ focuses on virtually defending and securing a company’s systems. There’s also cryptography, the decryption of hashes and codes. It’s very fun, and I love it. I've gotten to do like every side of it, so it feels good to settle on governance and risk.” Weyand also joined the Texas A&M Defense Cyber-Leader Development Program, a collaboration between the U.S. Department of Defense (DOD) and Texas A&M that offers resources to help prepare students for military or civilian careers within DOD organizations...
Texas A&M University College of Engineering - May 11, 2023

STEM / Workforce Resources & Opportunities

R&D WORKFORCE TRAINING: FEDERAL AGENCIES' STEM INTERNSHIPS, SCHOLARSHIPS, AND TRAINING OPPORTUNITIES
...Increasing the availability of STEM opportunities is a priority in the Biden Harris Adminis tration. To help facilitate th is, the team at NITRD developed a STEM Portal that allows anyone to search for internships and other training opportunities at Federal agencies. The NITRD STEM PORTAL is a sear chable database that includes a description, link, and contact information for each program listing. Government s ponsored internships and training programs are competitive, but there are many Federal opportunities and the NITRD STEM Portal is here to help...
The Networking and Information Technology Research and Development (NITRD) Program - May 17, 2023

Upcoming Conferences / Workshops / Webinars

PCAST Meeting: May 18-19
...PCAST will be meeting in-person in San Diego this Thursday and Friday, May 18-19. We invite everyone to view the livestreams of the meeting which will be available via the PCAST website. At this meeting we have public sessions on both Thursday and Friday AM Pacific Time. Thursday 5/18: Panel presentation and discussion of The Future of Food. This public session will kick off the new PCAST working group on Nutrition, created to fulfill a charge to PCAST that is in the Biden-Harris Administration National Strategy on Hunger, Nutrition, and Health. Friday 5/19: Two panels of expert presentations on Artificial Intelligence, followed by discussions with PCAST – (Panel 1) AI Enabling Science and (Panel 2) AI Impacts on Society.
The White House - May 16, 2023

NICE Conference & Expo: Resetting Expectations: Jun 5-7
...This year’s conference Theme “Resetting Expectations: Creating Accessible Cybersecurity Career Pathways” is about reimagining what it takes to be a cybersecurity professional. By resetting the expectations, cybersecurity will be an accessible career path through various, nontraditional avenues. June 5-7th, 2023 ...
NICE | Conference and Expo - May 16, 2023

Webinar: The CHIPS Act: Opportunities for Community Colleges: May 22
...The CHIPS Act provided approximately $50 billion to spur domestic fabrication of semiconductors and research and development in this cutting-edge field. The Dept. of Commerce, through the CHIPS for America Program Office at the National Institute of Standards and Technology, is overseeing the distribution of these funds. Attend this free webinar to learn what you need to know about this opportunity directly from CHIPS for America Program Office officials. Date & Time: May 22, 2023 02:00 PM – 3:00 PM Eastern Time
American Association of Community Colleges - May 15, 2023

Federal Register: Request for Information (RFI)

Dear Colleague Letter: A Request for Input on the Development of the U.S. Research Security and Integrity Information Sharing Analysis Organ

...The U.S. National Science Foundation (NSF) requests input from the research community on the development of a Research Security and Integrity Information Sharing Analysis Organization (RSI-ISAO). This Dear Colleague Letter (DCL) seeks to solicit feedback, ideas, and proposed recommendations from the research community to ensure the products, services, and tools provided by the RSI-ISAO align with the needs and expectations of the research community. The RSI-ISAO is tasked with providing information, tools, and services to the research community rather than providing official recommendations and/or determinations on potential research security and integrity risks on a case-by-case basis. The resources developed by the RSI-ISAO aim to help the research community make better-informed decisions in response to current and evolving research security and integrity risks in the current and future research environment. Based on the mission and duties outlined, NSF requests input from the research community on the six thematic areas. Please submit a white paper answering the stated questions to RSI-ISAO@nsf.gov by June 30, 2023. NSF is hosting webinars on the following dates to offer the U.S. research community an opportunity to learn more about the RSI-ISAO: Thursday, May 18, 2023, from 12 - 2 p.m. EDT & Wednesday, May 24, 2023, from 1 - 3 p.m. EDT... National Science Foundation - May 16, 2023

Innovation Through NITRD Coordination

Networking and Information Technology Research and Development National Coordination Office, Washington, DC USA