WOMEN AND GIRLS IN SCIENCE DAY FEB 11TH!	BLACK HISTORY MONTH	FEDERAL AGENCY FUNDING OPPORTUNITIES	HPC	ARTIFICIAL INTELLIGENCE / MACHINE LEARNING	ROBOTICS / AUTONOMOUS VEHICLES	QUANTUM	CYBERSECURITY / PRIVACY	5G, WIRELESS SPECTRUM, NETWORKING & COMMUNICATIONS	INFORMATION INTEGRITY RESEARCH & DEVELOPMENT	ADVANCED MANUFACTURING	MICROELECTRONICS	CLIMATE CHANGE / GREEN ENERGY & IT	DIGITAL HEALTH	OTHER IT RELATED	STEM / WORKFORCE & IT	STEM / WORKFORCE RESOURCES & OPPORTUNITIES	UPCOMING CONFERENCES / WORKSHOPS / WEBINARS

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!

Women and Girls in Science Day Feb 11th!

'Pursue what you want, believe in yourself and push as many boundaries as you can'
...In the United States, women are 28 percent of the workforce in STEM fields. Although there is a shortage of skills in most of the technological fields driving the Fourth Industrial Revolution, women still account for only 28 percent of engineering graduates and 40 percent of graduates in computer science and informatics. In honor of International Day of Women and Girls in Science, celebrated on Feb. 11, The NAU Review asked a variety of woman scientists why they chose their field and what advice they had for women and girls hoping to follow the same path...
NAU News - Feb 6, 2023

Black History Month

From the Space Shuttle to Structural Engineering, NIST's Tuskegee Airmen Left a Lasting Legacy in Service and Science

...In honor of Black History Month, we look back at their careers and impact on science. Their service to the nation continued long after they left the military. Four of these men are now known to have continued their careers at National Bureau of Standards (NBS) — now known as NIST — , though colleagues at the time didn't know about their co-workers' historic past...

National Institute of Standards and Technology - Feb 8, 2023

Federal Agency Funding Opportunities

DOD and the National Telecommunications and Information Sciences Launch 2023 5G Challenge for Open RAN with an Eye Toward Future Base Modernization

...The FutureG & 5G Office in the Under Secretary of Defense for Research and Engineering (OUSD(R&E)) is launching the 2023 5G Challenge. Sponsored by the FutureG & 5G Office and led by the Institute for Telecommunication Sciences division of the National Telecommunications and Information Administration (NTIA) from the Department of Commerce, the 5G Challenge will accelerate the adoption of open interfaces, interoperable components, and multi-vendor solutions toward the development of an open 5G ecosystem. The 5G Challenge will help establish the deployment readiness of Open RAN systems — an important factor in future decisions about updating communications infrastructure on Department of Defense facilities under the base modernization initiatives in the National Defense Authorization Act for Fiscal Year 2023. The "2023 5G Challenge: Advanced Interoperability" competition is open for applications on Challenge.gov. Applications must be submitted by 7 p.m. ET on March 1, 2023...

U.S. Department of Defense - Feb 2, 2023

HPC

DOE's Exascale Computing Project Supports WarpX

...Computational scientists have been working to create more affordable and accessible particle accelerators by shrinking both the size and the cost while increasing the capability. One of the most exciting developments in these efforts is the plasma accelerator, which uses lasers or particle beams rather than radio-frequency waves to generate the accelerating field with a much smaller footprint – even able to fit on a tabletop. Compact designs requires novel mathematical and software capabilities to enable high-performance, high-fidelity modeling that can capture the full complexity of acceleration processes over a large range of space and timescales – simulations that are often computationally intensive. The WarpX project – a Lawrence Berkeley National Laboratory (Berkeley Lab)-led effort that also drew the attention and support of DOE's Exascale Computing Project (ECP) – has spent the last six years creating a novel, highly parallel and highly optimized single-source simulation code for modeling plasma-based particle colliders on cutting-edge exascale supercomputers. The idea of WarpX is to provide a particle-in-cell (PIC) solution that can tackle problems that are much bigger and faster than we could do before. So we are pushing the state of the art with high performance computing...

Berkeley Lab - Feb 2, 2023

Artificial Intelligence / Machine Learning

NIH-funded study: Pigeons use same basic learning process as AI

...NIH-funded psychologists at the University of Iowa examined the workings of the pigeon brain and how the "brute force" of the bird's learning shares similarities with artificial intelligence. The researchers sought to tease out two types of learning: one, declarative learning, is predicated on exercising reason based on a set of rules or strategies—a so-called higher level of learning attributed mostly to people. The other, associative learning, centers on recognizing and making connections between objects or patterns, such as, "sky-blue" and "water-wet." Numerous animal species use associative learning, but only a select few—dolphins and chimpanzees among them—are thought to be capable of declarative learning. The researchers gave the pigeons complex categorization tests that high-level thinking, such as using logic or reasoning, would not aid in solving. Instead, the pigeons, by virtue of exhaustive trial and error, eventually were able to memorize enough scenarios in the test to reach nearly 70% accuracy. The researchers equate the pigeons' repetitive, trial-and-error approach to artificial intelligence. The basic process of making associations—considered a lower-level thinking technique—is the same between the test-taking pigeons and the latest AI advances. AI and pigeons both employ associative learning, and yet that base-level thinking is what allowed the pigeons to ultimately score successfully. The National Institutes of Health funded the research.

NSF/DARPA-funded research explores automating the math for decision-making under uncertainty

...Neural networks are trained by tuning their parameters to try to maximize a score that can be rapidly calculated for training data. The equations used to adjust the parameters in each tuning step used to be derived painstakingly by hand. Deep learning platforms use a method called automatic differentiation to calculate the adjustments automatically. This allowed researchers to rapidly explore a huge space of models, and find the ones that really worked, without needing to know the underlying math. When underlying scenarios are fundamentally uncertain probability theory is also needed. MIT researchers developed ADEV, which extends automatic differentiation to handle models that make random choices. This brings the benefits of AI programming to a much broader class of problems, enabling rapid experimentation with models that can reason about uncertain situations. In addition to climate modeling and financial modeling, ADEV could also be used for operations research. ADEV gives a unified framework for reasoning about the ubiquitous problem of estimating gradients unbiasedly, in a clean, elegant and compositional way. The research was supported by the National Science Foundation and the DARPA Machine Common Sense program...

MIT News - Feb 6, 2023

Robotics / Autonomous Vehicles

NSF/NOAA Next-generation storm forecasting project aims to save lives using variety of equipment including uncrewed aerial systems

...The U.S. National Science Foundation, along with the National Oceanic and Atmospheric Administration, held a media day to demonstrate the dozens of instruments that will be deployed this month to measure the atmosphere near and inside storms, as part of the Propagation, Evolution, and Rotation in Linear Storms, or PERiLS campaign. The project involves the coordination of about 30 teams in the field using a variety of equipment, including mobile radars, uncrewed aerial systems, trucks with instruments attached, and different kinds of portable devices designed to measure lightning and the atmosphere within and around storms...

National Science Foundation - Feb 8, 2023

US ARL-supported engineers devise a modular system to produce efficient, scalable aquabots

...Constructing deformable devices that can change the curve of their body shapes while maintaining a smooth profile is a long and difficult process. MIT's RoboTuna was composed of about 3,000 different parts and took about two years to design and build. Researchers at MIT and their colleagues have come up with an innovative approach to building deformable underwater robots, using simple repeating substructures instead of unique components. The team has demonstrated the new system in two different example configurations, one like an eel and the other a wing-like hydrofoil. The new modular system the researchers propose could easily be extended to such sizes on the scales of meters and beyond. Ultimately, the concept might be applied to a whale-like submersible craft, using its morphable body shape to create propulsion. Such a craft that could evade bad weather by staying below the surface, but without the noise and turbulence of conventional propulsion. The concept could also be applied to parts of other vessels, such as racing yachts, where having a keel or a rudder that could curve gently during a turn instead of remaining straight could provide an extra edge. ... The work was supported by the U.S. Army Research Lab.

MIT News - Feb 6, 2023

Quantum

NSF-funded Princeton scientists measure quantum correlations between molecules for the first time

...In the quest to build large-scale quantum systems, both for quantum computing and for more general scientific applications, researchers have used a variety of different alternatives — everything from trapped ions and atoms to electrons confined in "quantum dots." The goal is to transform these various alternatives into what are called qubits. Princeton researchers have achieved a major breakthrough by microscopically studying molecular gases at a level never before achieved by previous research. The Princeton team was able to cool molecules down to ultracold temperatures, load them into an artificial crystal of light known as an optical lattice, and study their collective quantum behavior with high spatial resolution such that each individual molecule could be observed. This experiment has profound implications for fundamental physics research, such as the study of many-body physics, which looks at the emergent behavior of ensembles of interacting quantum particles. The research also might accelerate the development of large-scale quantum computer systems. The research was supported by the National Science Foundation...

Princeton University - Feb 7, 2023

Cybersecurity / Privacy

Quad Joint Statement on Cooperation to Promote Responsible Cyber Habits

...The Quad partners of Australia, India, Japan, and the United States are launching a public campaign to improve cyber security across our nations: the Quad Cyber Challenge. We are inviting Internet-users across the Indo-Pacific and beyond to join the Challenge and pledge to practice safe and responsible cyber habits. The Challenge reflects our continuing Quad efforts to strengthen individuals' and communities' cyber security awareness and action, as well as to foster a more secure and resilient cyber ecosystem to benefit economies and users everywhere. The Challenge provides resources, such as basic cybersecurity information and training, for all users – from corporations to education institutions, small businesses, and individuals from grade school students to the elderly, and will culminate in events during the week of April 10th...
The White House - Feb 7, 2023

Request for Information on the 2023 Federal Cybersecurity Research and Development Strategic Plan

...The NITRD NCO seeks public input for the 2023 update of the Federal cybersecurity R&D strategic plan. The updated plan will be used to guide and coordinate federally funded research in cybersecurity, including cybersecurity education and workforce development, and the development of consensus-based standards and best practices in cybersecurity. Submissions must be received on or before 11:59 p.m. (ET) on March 3, 2023...
Federal Register - Feb 7, 2023

NIST Selects 'Lightweight Cryptography' Algorithms to Protect Small Devices

...Security experts at the National Institute of Standards and Technology (NIST) have announced a victor in their program to find a worthy defender of data generated by small devices. The winner, a group of cryptographic algorithms called Ascon, will be published as NIST's lightweight cryptography standard later in 2023. The chosen algorithms are designed to protect information created and transmitted by the Internet of Things (IoT), including its myriad tiny sensors and actuators. They are also designed for other miniature technologies such as implanted medical devices, stress detectors inside roads and bridges, and keyless entry fobs for vehicles. Devices like these need "lightweight cryptography" — protection that uses the limited amount of electronic resources they possess...
National Institute of Standards and Technology - Feb 7, 2023

Reliability and Maintainability Information System (REMIS), Business and Enterprise Systems (BES) Cybersecurity Hygiene Reconciliation Audit

...The Reliability and Maintainability Information System (REMIS) Business and Enterprise Systems (BES) Cybersecurity Hygiene Reconciliation Audit was conducted from October 31, 2022, to November 4, 2022, with REMIS achieving a perfect 4.0 out of 4.0 score! The audit evaluated the cyber hygiene (i.e., fundamental cybersecurity best practices) of a system or application. AFLCMC/GBZ conducted the audit with the goal of promoting secure development while, at the same time, assessing the cyber hygiene posture across the Business and Enterprise Systems (BES) Directorate. The foundation of the audit was the National Institute of Standards and Technology (NIST) Cybersecurity Framework (CSF)...
Air Force Link - Feb 6, 2023

DHS Teams Up with State and Local Officials to Secure Super Bowl LVII

...The Department of Homeland Security, in close coordination with state and local officials, is leading federal efforts to ensure the safety and security of employees, players, and fans during Super Bowl LVII. DHS's support for Super Bowl LVII includes more than 600 personnel providing extensive air security resources; venue, cyber, and infrastructure security assessments; chemical, biological, radiological, nuclear, and explosives detection technologies; intelligence analysis and threat assessments; intellectual property enforcement; and real-time situational awareness reporting for our partners. This event was voluntarily submitted to DHS for a risk assessment – as with past Super Bowls - and was classified as Special Event Assessment Rating (SEAR) Level 1, meaning that it requires extensive federal support...
Homeland Security - Feb 7, 2023

5G, Wireless Spectrum, Networking & Communications

President Biden Announces Appointments to the President's National Security Telecommunications Advisory Committee

...President Biden announced his intent to appoint highly qualified and diverse industry leaders as members of the President's National Security Telecommunications Advisory Committee. The National Security Telecommunications Advisory Committee (NSTAC) advises the White House on the reliability, security, and preparedness of vital

communications and information infrastructure. These appointees will join previously appointed NSTAC members to provide national security and emergency preparedness solutions by providing innovative policy recommendations backed by a unique industry perspective...
The White House - Feb 3, 2023

Scientists Track Tropical Landslide Creeping Below an African City

...A team of international researchers, including from NASA's Jet Propulsion Laboratory, has combined satellite and archival imagery to show how one African city's changing water usage influences land movements near and just below the surface. The researchers noted that Bukavu – with a population estimated to double to more than a million inhabitants by 2030 – is emblematic of many cities in the developing world that have seen rapid and unplanned growth on tectonically active landscapes. To measure the land motion, the research team analyzed radar data collected by satellites and then the measurements were processed into maps showing land movement...
National Aeronautics and Space Administration - Feb 3, 2023

Engineering professor receives National Science Foundation grant to design 6G public safety networks

...The University of New Mexico's project is funded by the National Science Foundation amd will strive to create new solutions for 6G-enabled networks aimed at improving public safety. Another part of the project will involve an innovative, massive, multiple-access mechanism and a dynamic spectrum-sharing model to increase the public safety system's capacity and improve the spectrum utilization, respectively, during relief operations. And a new positioning, navigation and timing (PNT) solution will be proposed to support scenarios of Global Positioning System (GPS) denial by utilizing the next-generation network technology of reconfigurable intelligent surfaces...
UNM Newsroom - Feb 2, 2023

Information Integrity Research & Development

Why COVID misinformation continues to spread

...COVID changed the game in so many ways. People started using social media more and thinking about how we interact and communicate with each other, especially in the early phases of the pandemic. That access, coupled with the pace of change, gave misinformation the space to take hold, and despite how much more we know today than in spring 2020, that challenge still persists. University of Pennsylvania researchers were awarded a $3.8 million grant from the National Institutes of Health to study the intersection of public health and social media.The team's new research is going to use machine learning to dive deep into roughly 800 individuals' social media content, pulling out the misinformation at scale to look for themes related to health, how people are engaging with it, and the language they're using...
Penn News - Feb 9, 2023

Advanced Manufacturing

Revolutionizing American Manufacturing

...MEP National Network experts around the country are working with small manufacturers to revolutionize U.S. manufacturing. From 3D-printed body organs and predictive maintenance to sensors that improve supply chain visibility, the future of manufacturing is about making processes more efficient and getting people what they need when they need it. * 3D printing holds great promise for manufacturing. One exciting area is the possibility of 3D-printing human tissue, be it valves or entire organs. Currently in the active research phase, scientists at the National Institute of Standards and Technology (NIST) are hard at work developing the necessary measurement infrastructure to unlock this technology's full potential. * Predictive maintenance, or prognostic health management, is transforming manufacturing. Like the sensors in your smart watch that collect your health data, predictive maintenance provides data about the health of a manufacturing facility. Sensors enable manufacturers to better understand their production lines, correct problems and save money...
National Institute of Standards and Technology - Feb 2, 2023

New nanoscale 3D-printing material could offer better structural protection for satellites, drones and microelectronics

...Engineers at Stanford University have designed a new material for nanoscale 3D printing that is able to absorb twice as much energy as other similarly dense materials. Nanoscale printing creates structures that are a fraction of the diameter of a human hair and can print minuscule materials that are both strong and light. The researchers were able to combine metal nanoclusters with several common classes of polymers that are used in 3D printing and were able to print at a rate of 100 millimeters per second. The

research was supported through multiple research grants from the U.S. National Science Foundation and through NSF support for the Stanford Site of the National Nanotechnology Coordinated Infrastructure...
National Science Foundation - Feb 6, 2023

DOE funds two grants for new technology that will break down, upcycle low-quality, rejected plastic wastes
...A three-year, $2.25 million grant administered by the Department of Energy's Bioenergy Technologies Office, aims to convert the lowest-quality plastics in the waste stream, plastics now rejected for recycling, into materials for construction industries. The second project, a three-year, $2.5 million grant administered by the Department of Energy's Advanced Manufacturing and Bioenergy Technologies offices, will develop new plasma technology to convert single-use plastics to biodegradable plastics. Researchers are developing novel, low-temperature plasma conversion technologies for adding value to biomass and waste plastics. The plasma is created by applying a strong electric field to a gas, which accelerates electrons and creates charged particles....
Iowa State University News Service - Feb 2, 2023

Microelectronics

First-of-its-kind instrument officially ushers in new era of X-ray science
...Arizona State University's new device, called the compact X-ray light source (CXLS), gives a new tool to look at medical science and semiconductors and all kinds of imaging in different ways. ASU researchers have been building an advanced experimental setup for X-ray crystallography. The X-ray pulses travel along a "beamline" through a lead-shielded cutout window from the source to the adjacent user hutch room and into the science experiment chamber. The setup provides precision nanoscale sample positioning and injection capabilities, along with a high-resolution 4-megapixel X-ray detector, which can capture every X-ray shot. A tunable excitation laser — funded by a National Science Foundation MRI grant — provides tailored photoexcitation for time-resolved studies. The ASU instrument will serve the broader research community. One of the CXLS instrument's main benefits to the nation is expanding access to — in essence "democratizing" — the science of ultrashort X-rays, so that other universities or labs may use the ASU facility or develop similar technology. This increased access will help speed up and advance critical areas of science and broaden the user base for large XFELs...
Arizona State University - Feb 3, 2023

Climate Change / Green Energy & IT

Agreement between NOAA, ASCE prepares nation for climate-ready infrastructure
...NOAA calculated that 2022 was the third most costly year on record for weather and climate-related disasters. NOAA, the American Society of Civil Engineers (ASCE) and the University of Maryland (UMD) Center for Technology and Systems Management held a summit to discuss how the nation's engineering profession can account for climate change in the design and construction of future building and infrastructure projects. The partnership and new memorandum of understanding (MOU), unveiled during a summit, between NOAA and ASCE will in part be facilitated by UMD and is aimed at helping create a stronger, more resilient future for a key sector of the U.S. economy. The partnership and MOU will also focus on inequities in climate resilience. The effects of climate change on vulnerable populations are frequently compounded by exacerbating other risks, such as inland flooding, urban heat islands and poor air quality. To address these inequities, NOAA and ASCE will work together to identify particular needs for climate-resilient infrastructure in urban, rural and low-income communities...
National Oceanic and Atmospheric Administration - Feb 2, 2023

NSF-Funded Research Shows Past Records Help to Predict Different Effects of Future Climate Change on Land and Sea
...One of the clearest regional differences in climate change is the faster warming over land than sea. This "terrestrial amplification" of future warming has real-world implications for understanding and dealing with climate change. One reason why understanding terrestrial amplification matters is that under future global warming, the magnitude of warming that the planet will experience is not going to be the same everywhere. Adding a firm basis to climate model simulations, that is rooted in observations of past climate and basic physics, can tell us about how the regional differences in ongoing and future warming. Terrestrial amplification (TA) is analogous to "polar amplification," a prediction of climate models that higher latitudes will experience more warming than low latitudes. The new research investigates terrestrial amplification during the Last Glacial Maximum (LGM)—which occurred about 20,000 years ago—in the low latitudes, which they define as 30ºS–30ºN. It is in those latitudes where the theoretical basis for TA is most applicable. ... Funding for this research was provided by a National Science Foundation.
The Woods Hole Oceanographic Institution - Feb 8, 2023

Digital Health

FACT SHEET: On One Year Anniversary of Reignited Cancer Moonshot, Biden-Harris Administration Announces New Actions to End Cancer as We Know It

...The Cancer Moonshot has spurred tremendous action across the federal government and from the public and private sectors, building a strong foundation for the work ahead. The Cancer Moonshot has announced over 25 new programs, policies, and resources to address these five priority areas. The Cancer Cabinet is taking the following new actions: * Health Resources and Services Administration (HRSA), is awarding $10 million to improve access to lifesaving cancer screenings and early detection including patient navigation support services. HRSA, a part of the U.S. Department of Health and Human Services (HHS), is doubling its investment in new partnerships to bring community health centers together with NCI-Designated Cancer Centers to facilitate access to lifesaving cancer screenings and early detection services for underserved communities. * HHS is launching the "CancerX" National Innovation Accelerator Initiative, a government wide effort to develop tools, such as digital solutions to improve cancer patient care coordination and communication, new software technology to help community organizations meet cancer patients where they are, or new platforms to support patients with their post-treatment care...
The White House - Feb 2, 2023

Other IT Related

Request for Information; Digital Assets Research and Development

...The White House Office of Science and Technology Policy (OSTP)—on behalf of the Fast Track Action Committee (FTAC) on Digital Assets Research and Development of the Subcommittee on Networking and Information Technology Research and Development (NITRD) of the National Science and Technology Council, the National Science Foundation, and the NITRD National Coordination Office—requests public comments to help identify priorities for research and development related to digital assets, including various underlying technologies such as blockchain, distributed ledgers, decentralized finance, smart contracts, and related issues such as cybersecurity and privacy, programmability, and sustainability as they relate to digital assets. Interested individuals and organizations are invited to submit comments on or before 5 p.m. ET on March 3, 2023...
Networking and Information Technology Research and Development (NITRD) Program - Jan 26, 2023

New $60 million NSF program aims to increase the speed and scale of research solutions

...The U.S. National Science Foundation announced the Accelerating Research Translation, or ART, program, a new $60 million investment led by NSF's Directorate for Technology, Innovation and Partnerships. The program will support institutions of higher education to build capacity and infrastructure needed to strengthen and scale the translation of basic research outcomes into impactful solutions and practice. "The ART program aligns with the goals of the 'CHIPS and Science Act,'" said Erwin Gianchandani, NSF assistant director for Technology, Innovation and Partnerships. "The program will help grow capacity at institutions of higher education, thereby enabling identification of academic research with potential for technology transfer, ensuring availability of staff with technology transfer expertise, and supporting education and training of entrepreneurial students and faculty, among other outcomes."...
National Science Foundation - Feb 9, 2023

NIST Director Laurie Locascio Elected to National Academy of Engineering

...Laurie E. Locascio, under secretary of commerce for standards and technology and director of the National Institute of Standards and Technology (NIST), has been elected to the National Academy of Engineering — one of the highest professional distinctions accorded to an engineer. A key priority for her is the successful implementation of the CHIPS for America initiative, a $50 billion suite of programs to strengthen and revitalize U.S. leadership in semiconductor research, development and manufacturing...
National Institute of Standards and Technology - Feb 8, 2023

STEM / Workforce & IT

How to Obtain a Deeper Understanding of a Culture of Belonging

...With the help of peer feedback, face-to-face knowledge sharing, and coaching, Baldrige Executive Fellows work on capstone leadership projects to drive strategic improvement for their own organizations. To do this, they develop a project to innovate or improve something of strategic significance using Baldrige concepts and what they learn from the best practices of Baldrige Award recipients whom they visit during their year-long fellowships. They also have a network of other Fellows with whom they can test ideas and innovations and receive feedback. The Fellows' capstone projects are intended to yield significant, systemic impact in their own organizations...
National Institute of Standards and Technology - Feb 7, 2023

NASA Awards Millions to Historically Black Colleges, Universities

...NASA is awarding $11.7 million to eight Historically Black Colleges and Universities (HBCUs) through the new Data Science Equity, Access, and Priority in Research and Education (DEAP) opportunity. These awards will enable HBCU students and faculty to conduct innovative data science research that contributes to NASA's missions. The awarded projects have up to three years to establish institutes and partnerships to increase the number and research capacity of STEM students at HBCUs, accelerate innovation in a wide range of NASA science, technology, engineering, and mathematic research areas, and prepare the future workforce for data-intensive space-based Earth sciences. The agency's Minority University Research and Education Project (MUREP) and the Science Mission Directorate collaborated on the DEAP opportunity, and selected the following institutions and their proposed projects...
National Aeronautics and Space Administration - Feb 4, 2023

USDA Grant Will Fund Development of New, Technically Advanced Agriculture Workforce

...Mechanical engineering Professor Reza Ehsani leads a team awarded a $999,983 grant from the United States Department of Agriculture (USDA-HSI program) to fund "Integrated Education Programs to Train Students for a Future in the Agricultural and Food Industry." Students at UC Merced and West Hills will put together project-based kits that will offer hands-on learning of science, technology, engineering and math related to food and agriculture (AgSTEM). The material will be designed to be easy to learn while covering highly technical topics, such as advanced soil and plant sensors, robotics and artificial intelligence systems...
UC Merced News - Feb 8, 2023

USF awarded its largest grant by NSF to prepare students for cybersecurity careers

...The National Science Foundation has awarded the University of South Florida the largest grant it has ever received for its cybersecurity program – helping prepare students for in-demand, high-paying jobs in the federal government and other public institutions. The $3.7 million grant will establish the Cybersecurity Research and Education for Service in Government, or CREST, program, which will enable USF to recruit, mentor and provide scholarships to at least 28 graduate and undergraduate students and prepare them to serve as cybersecurity professionals in the federal government. The CREST grant will also allow USF to leverage education and research resources available at the Florida Center for Cybersecurity, or Cyber Florida, which is housed at USF, as well as affiliated federal and state agencies in the Tampa Bay region. CyberCorps is a unique and prestigious scholarship for service program funded by NSF and supported by the Department of Homeland Security...
University of South Florida - Feb 2, 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 Administration. To help facilitate this, 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 searchable database that includes a description, link, and contact information for each program listing. Government-sponsored 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 - Jan 31, 2023

NIST: Summer High School Intern Program - Closes Feb 13!

...The Summer High School Intern Program (SHIP) is a NIST-wide summer intern program for students who will have finished their junior or senior year of high school by the start of the program and are interested in scientific research only. Students selected for this competitive volunteer program will participate in cutting-edge research at NIST, and will work closely with NIST staff scientists and engineers on a specific research problem. The 8-week program is tentatively scheduled to start on Tuesday, June 20, 2023 to August 14, 2022. The on-line application, including letters of recommendation, is accepting applications only between December 01 and February 13, 2023...
National Institute of Standards and Technology - Jan 31, 2023

NSF 101: High school students, undergraduate and post-baccalaureate scholar funding opportunities

...The U.S. National Science Foundation supports multiple programs for high school, undergraduate and post-baccalaureate students to help fund research opportunities. High school students: * High School Student Research Assistantships (MPS-High) * Research Assistantship for High School Students (RAHSS) | Undergraduate students: * Research Experience for Undergraduates (REU) and Supplemental Awards * Robert Noyce Teacher Scholarship Program | Post-baccalaureate: * Computer and Information Science and Engineering Graduate Fellowships (CSGrad4US) * Geoscience Research Experiences for Post-Baccalaureate Students (GEO-REPS) Supplemental Funding Opportunity * Research and Mentoring for Post-Baccalaureates in Biological Sciences (RaMP) * Post-Baccalaureate Research Experiences for LSAMP Students (PRELS) Supplemental Funding Opportunity...
National Science Foundation - Jan 20, 2023

Innovative HOPE Graduate Workshop Is Accepting Applications for Summer Participation: Deadline Feb 17

...The U.S. Department of Energy's (DOE's) Solar Energy Technologies Office's 2023 workshop will take place July 9–15 at the National Renewable Energy Laboratory's (NREL's) Golden, Colorado, campus. HOPE cohort sizes are kept low (12–18 participants) to accommodate space constraints in the labs and facilitate close interactions between participants and researchers. Applicants must be enrolled in a doctoral program in the United States, and the workshop tends to be most beneficial to those in the middle—around the second to the fourth year—of their doctoral research program. Both a graduate student application and a professor nomination are required for an applicant to be considered. Applications are open now and will be accepted until Feb. 17...
National Renewable Energy Laboratory - Feb 8, 2023

HPC Opportunity: NIST IT Specialist (Systems Administration)

...Working as an IT Specialist (Systems Administration) in the Research Services Office, you will work with the NIST High Performance Computing (HPC) team under direction of the group lead to provide all aspects of systems administration support for Linux-based HPC systems and the research community. Collaborating with colleagues across OISM and the user community, this position will work to maintain and improve operational usability, reliability, and stability in a secure manner for the compute, storage, network, and software resources. Closing date: 02.16.23...
USAJOBS - Feb 8, 2023

HPC Opportunity: NIST Information Technology Specialist

...Working as an Information Technology Specialist in the Research Services office, you will provide support for NIST's scientific software portfolio to assure availability of existing licensed products and make recommendations for portfolio changes based on usage. Support tasks includes installing, configuring, and upgrading software portfolio assets; utilizing license management products in conjunction with custom scripts to extract usage information for consumption by stakeholders; writing knowledge base articles and web content to facilitate self-service by scientific software users; providing technical assistance to scientific software users to facilitate license access. Closing date: 02.16.23
USAJOBS - Feb 8, 2023

HPC Opportunity: NIST Information Technology Specialist

...Working as an Information Technology Specialist, in the Research Services Office, you will provide support for NIST's scientific software portfolio to assure availability of existing licensed products and make recommendations for portfolio changes based on usage. Support tasks includes installing, configuring, and upgrading software portfolio assets; utilizing license management products in conjunction with custom scripts to extract usage information for consumption by stakeholders; writing knowledge base articles and web content to facilitate self-service by scientific software users; providing technical assistance to scientific software users to facilitate license access. Term Appointment. Closing date: 02.16.23
USAJOBS - Feb 8, 2023

Upcoming Conferences / Workshops / Webinars

NIST Innovative Technology Showcase #2: Mar 13

...The NIST Technology Partnership Office (TPO) oversees the technology transfer processes that NIST researchers use to develop collaborative relationships with regional, national, and global partners. This results in fostering entrepreneurship, small business growth, and economic strength. TPO will present the "NIST Innovative Technologies

Showcase 2". This event will include: * Select presentations by NIST researchers describing cutting-edge technologies * Panel Discussion to discover how to collaborate or license a NIST technology. VIRTUAL EVENT March 13, 2023 3:00 - 4:30pm EDT
National Institute of Standards and Technology - Feb 2, 2023

DOE Office of Science Graduate Student Research Program: Workshops Mar 9 & Apr 20
...The goal of the Office of Science Graduate Student Research (SCGSR) program is to prepare graduate students for science, technology, engineering, or mathematics (STEM) careers critically important to the DOE Office of Science mission, by providing graduate thesis research opportunities at DOE laboratories. The SCGSR program provides supplemental awards to outstanding U.S. graduate students (US citizens or lawful permanent residents) to pursue part of their graduate thesis research at a DOE laboratory/facility in areas that address scientific challenges central to the Office of Science mission. The Office of Science Graduate Student Research (SCGSR) Program is now open for applications. Applications are due May 3, 2023 at 5:00PM Eastern Time. Application Assistance Workshops: Workshop 1: "Overview of the SCGSR Program and Application process" – March 9, 2023, 2:00 PM – 3:30 PM ET and Workshop 2: "Q&A, Application and Proposal Guidance" – April 20, 2023, 2:00 PM – 4:30 PM ET...
science.osti.gov - Feb 8, 2023

3rd High-Performance Computing Security Workshop: Mar 15-16
...NIST HPC Security Working Group (WG) has been leading the effort to create a comprehensive and reliable security guidance for HPC systems. As part of the Working Group mission and to reach greater HPC scientific community, NIST, in collaboration with National Science Foundation (NSF), will host the 3rd High-Performance Computing Security Workshop on March 15-16, 2023. The workshop aims to listen to community's needs and feedbacks, report and reflect on the ongoing activities at HPC Security WG, and define and discuss future directions with stakeholders from industry, academia, and government.
National Institute of Standards and Technology - Feb 9, 2023

Note: Any mention in the text of commercial, non-profit, academic partners, or their products, or references is for information only; it does not imply endorsement or recommendation by any U.S. Government agency.

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