

State News for NSPE Members

Save the Date: Montana 2021 Joint Engineers Conference

The 2021 Joint Engineers Conference will be held on **November 3-5, 2021**, at the Delta Colonial Hotel in Helena.

Visit the Montana Society of Engineers [website](#) for more details on the conference agenda and registration rates.

Senate Committee Advances \$311 Million for Montana Water Infrastructure Projects

The US Senate's Energy and Natural Resources Committee advanced more than \$300 million in Montana-specific water projects on July 14. These projects were secured by Senator Jon Tester (D-MT) as part of the Bipartisan Infrastructure Framework he recently negotiated with a group of Republican and Democratic senators and the White House.

The \$311 million will help secure water supplies for more than 65,000 people, support agricultural producers and economic development with better water availability, respond to increasingly scarce water with better efficiency and storage systems, and honor the federal government's trust and treaty responsibilities to Indian Country. Up to \$100 million of that funding will go towards rehabilitating the Milk River Project, which will directly rehabilitate the St. Mary's Diversion Dam and avert more failures like the drop structures last summer, while improving efficiency and reliability of the overall system.

Senator Tester also recently introduced legislation ([Montana Headwater Legacy Act](#)) designed to protect Montana's rivers with [backing from a diverse coalition](#).

[Read more.](#)

Governor Secures Drought Disaster Aid

After declaring a statewide drought emergency and following his [request](#) to the Secretary of the US Department of Agriculture (USDA), Governor Greg Gianforte announced on July 6 that the USDA has [designated 10 Montana counties](#) as natural disaster counties.

Hill and Wheatland counties have been designated as primary disaster areas, with eight contiguous counties also eligible for assistance from the Farm Service Agency, including Blaine, Chouteau, Fergus, Golden Valley, Judith Basin, Liberty, Meagher, and Sweet Grass counties. To date, USDA has designated 26 of Montana's 56 counties as primary or contiguous counties for disaster designation areas.

On July 1, Gov. Gianforte [issued an executive order](#) declaring a statewide drought emergency in Montana. As of June 22, approximately 91% of Montana faced abnormally dry to extreme conditions. At the same time last year, approximately 52% of the state faced similar conditions.

A Missoula PE Offers Perspective on Basin Creek Solar Project

In an op-ed in the Montana Standard, Alan Bronec, P.E., shares his perspective on the potential benefits of the Basin Creek Solar farm. Bronec is the director of electrical engineering and a principal at Cushing Terrell, a Montana-based architecture and engineering firm.

Opponents to the Basin Creek Solar farm state "how can this power the Atlas data center, plus 40,000 homes when the sun is not shining?" We know the sun does not shine 24 hours and that there are even limitations when the plant is producing peak power. Confusion around the potential power production of the Basin Creek Solar farm is a common misconception we face.

When the team states that the project can power the datacenter plus 40,000 homes, this is about the peak output of the system—not the annual energy production.

Based on the current design and layout the annual average estimated production curves have the project being able to meet 100% of the Atlas datacenter's energy demand from 8a.m.- 4p.m. Now obviously since this is the average it will be less in the winter and more during in the summer and vary based on the weather. If Atlas enters into a power purchase agreement it will consider when the solar farm produces power and how much. Atlas then will either look to contract other large power purchase agreements for the off solar production times or buy as needed on the spot market. This is a very common practice with large energy consumers when they start to procure variable renewable sources like wind and solar.

The overall benefit to Montana's grid is that the Basin Creek project will be producing more power when Montana sees peak demand on the grid. NorthWestern Energy offers on-peak power purchase rates during the months of January, February, July, August, and December from 8a.m.-11p.m. Basin Creek will be producing more power than Atlas would consume during three of these months, which will help ensure grid reliability. This is especially relevant with the record temperatures we have been seeing in the northwest and the significant increase in electricity usage to cool buildings that is likely to become more common due to climate change.

[Read more.](#)

MSU to Offer New Bachelor's Degree in Biomedical Engineering

As medicine increasingly involves sophisticated technologies and an aging population creates more demand for health care, a new academic program at Montana State University will prepare students for the rising opportunities for biomedical professionals.

Starting this fall, MSU's Norm Asbjornson College of Engineering will offer a bachelor of science degree in biomedical engineering, which will prepare students to create new diagnostic devices, prosthetics, pharmaceuticals, and more.

"We've been getting more and more engineering students who want to help people by improving health care," said Jeff Heys, the degree coordinator and a professor in the Department of Chemical and Biological Engineering. "We're also hearing increased demand for workers in the industry, and we're excited to offer this new opportunity to students."

The program will combine existing engineering curricula with courses like anatomy, physiology, and cell biology, as well as include a half-dozen new courses specifically tailored to the new major. MSU will also continue to offer its biomedical minor, which has been popular since it launched a couple years ago.

[Read more.](#)



NSPE's **Job Board** is your one-stop resource for professional engineering employment. Whether you are on the hunt for your next career move or looking for today's top engineering leaders and talent, you will find it here.

NSPE provides the tools PEs need to keep current in the profession and advance their careers.

Featured Jobs

[Geotechnical Engineer \(Mid-Level\)](#)

Billings, MT

[City Engineer](#)

Great Falls, MT

Find more job openings or reach the right employees on the [NSPE Job Board](#).

Stay up to date on legislative issues through the [NSPE Advocacy Center](#).

Have You Registered for Virtual PECon 2021?

With sessions on leadership, innovation, diversity, ethics, time management, and more, there is a session for everyone at the [2021 Virtual Professional Engineers Conference](#) (Aug 3-5). The [early bird registration](#) rates end after today (July 14).

You won't want to miss out on the keynote speakers, networking with your friends and peers in Coffee Chats, solving everyday problems in MasterMind sessions, and [PE Day](#) (August 4). Here's a peek....



- [Managing Up, Out and Within](#) (Stephanie Buckingham and Paula E. Miles, P.E.)

- [Cyber-attacks and Resilience](#) (James Livermore and Dave Ubert)
 - [NSPE Engineering Excellence Awards](#)
 - [Mars Is a Harsh Mistress \(So is the Moon\)](#) (George Hamilton, P.E., F.NSPE)
 - [Delegation: How to Manage the Monkeys on Your Back](#) (Shelley Rowe, P.E.)
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Iowa Approves PE Exam Before Experience

PE license candidates in Iowa will have the opportunity to take the PE exam prior to meeting the four years of experience requirement.

Legislation (H.F. 284) signed by Governor Kim Reynolds in April eliminates the requirement that applicants for a professional engineer license must show necessary practical experience in engineering work prior to taking the PE exam. The bill does not alter other experience requirements for applicants.

Individuals applying for licensure in Iowa should access the Iowa Engineering and Land Surveying Examining Board [website](#) for updates on implementation of the rule change.

In states that have “decoupled” the experience and examination requirements, applicants are still required to complete all education, examination, and experience requirements before being granted a PE license.

NSPE believes that licensing boards should provide the option of taking the PE exam as soon as applicants for licensure believe they are prepared to take the exam and have passed the FE exam. Applicants, upon passing the exam, should not be eligible for licensure before meeting all other jurisdictional requirements.

Can the Engineering Profession Achieve Racial Equity?

Engineering occupations are some of the highest-paying and most prestigious in the US labor market, but they are also some of the least diverse. A [new report](#) from the Georgetown University Center on Education and the Workforce finds that between 1990 and 2019, the total number of Black/African American and Latinx students who graduated with a bachelor’s degree in engineering increased nearly fourfold, but there is still far from equitable



representation.

Over the same time period, the Latinx share of bachelor's degrees in engineering increased from 3% to 13%, while the Black/African American share held steady at 4%. At this pace, achieving racial equity in engineering on par with population share would take 76 years for Latinx and Black/African American workers as a group and up to 256 years for Black/African American workers alone.

“Having a career in engineering means you’ve made it,” said Anthony Carnevale, CEW director and report lead author in a statement. “While it’s a marker of climbing the wage and status occupational pyramid, it’s also a social indicator of progress on racial and gender justice.”

The report addresses how Black and Latinx are underpaid in a profession that pays very well. A person with an engineering bachelor's degree (and no graduate degree) earns 25% more on average than the typical bachelor's degree holder in the first job after graduation.

However, as with almost all fields, Black/African American and Latinx workers earn less than the average. While White and Asian workers with a bachelor's degree in engineering earn 61% and 71% more, respectively, than the average for all bachelor's degree holders, Black/African American and Latinx engineering majors earn just 15% and 18% more, respectively. To attain earnings comparable to those of White engineering majors, Black/African American or Latinx engineers must earn an additional degree beyond the bachelor's degree.

The report authors emphasize that it shouldn't take decades or centuries to ensure diversity in the engineering workforce mirrors diversity in society. It will take a comprehensive, committed, and innovative approach from employers and universities to close the gap.

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