

**South Carolina State University**  
**Assistant Professor -**  
**Nuclear Engineering**

This is a tenure track faculty position at South Carolina State University (SCSU) in the Nuclear Engineering Program in the College of Science, Technology, Engineering, Mathematics, and Transportation (CSTEMT). The successful candidate will be responsible for providing undergraduate instruction in nuclear engineering (including reactor physics and design), engineering sciences, radiation science and nuclear instrumentation.

Other duties will include student advisement, coordinating educational and research assignments on campus and at National laboratories and/or nuclear utilities, and supervising undergraduate research in nuclear science.

Qualifications: An earned PhD degree in Nuclear Engineering with expertise or extensive knowledge in Radiochemistry is required. Relevant experiences in teaching/research are also required. The position requires a commitment to undergraduate teaching, research, and excellent communications skills. The candidate will also be required to play a key role in the sustenance and growth of our Radiochemistry program.

All required application documents must be attached to the application. If selected for an interview, the original documents must be presented. **US Citizens or US Permanent Residents are preferred.**

**To Apply:** Submit Application online by following the link: [www.scsu.edu](http://www.scsu.edu).; Faculty & Staff, Human Resources, Employment Opportunities. Applications will be received until the position is filled. All credentials submitted will become the property of South Carolina State University. South Carolina State University is an Equal Opportunity, Affirmative Action Employer.

## Research & Applications

mission to Mars. While the fundamental challenge facing an NTP system is the ability to heat its propellant to about 2,700 K, the fundamental challenge for an NEP system is scaling up the operating power for each subsystem.

“Safely transporting astronauts to and from Mars will require advances in propulsion systems to develop spacecraft that are up to the challenge,” said Roger Myers, cochair of the report committee. “Nuclear propulsion systems have the potential to substantially reduce trip time compared to nonnuclear approaches. Synergy with other space mission applications and terrestrial power programs is also significant and will bring about added value.”

### HEADWINDS

#### U.S. Navy researchers dive into cold fusion debate

Scientists at the Naval Surface Warfare Center, Indian Head Division, have pulled together a group of Navy, Army, and National Institute of Standards and Technology labs to help try and settle the debate over low-energy nuclear reactions (LENRs), reports *IEEE Spectrum*, the flagship magazine of the Institute of Electrical and Electronics Engineers.

Sometimes referred to as cold fusion, the science of LENRs has been debated since 1989, when Stanley Pons and Martin Fleischmann published the results of experiments in which they claimed to have generated nuclear energy using a simple, room-temperature tabletop setup involving palladium and heavy water. Subsequent experiments by other researchers, however, failed to replicate their findings, heightening skepticism.

According to the *IEEE Spectrum* report, the labs will conduct experiments in an effort to ascertain if there is really something to the LENR idea, if it is just odd chemical interactions, or if some other phenomenon entirely is taking place in these controversial experiments.

Much of the impetus for the research into LENRs by the Naval Surface Warfare Center comes from a 2019 paper published by a Google team in *Nature* that revealed the company had spent \$10 million to research LENRs since 2015. The Google team, which included researchers from Massachusetts Institute of Technology, the University of British Columbia, and Lawrence Berkeley National Laboratory, found no evidence of classic Pons-Fleischmann-style cold fusion. It did, however, find evidence of the larger umbrella category of LENRs—suggesting that nuclear reactions may be possible in locally hot sites in otherwise room-temperature metals.

While LENR research is still considered controversial, according to the *IEEE Spectrum* report the Indian Head team decided that, as a government lab, it had a little more freedom to pursue the topic, so long as the research also offered up the prospect of rewarding scientific results.

Oliver Barham, a project manager at Indian Head involved in the effort, said, “I’m not as worried about looking into something that is considered controversial as long as there’s good science there. The whole point of our effort is we want to be doing good science. We’re not out to prove or disprove anything, we’re out to assemble a team of scientists who want to take it seriously.” ☒