

Dear Vandals,

Up until last year, University of Idaho doctoral student Olugbenga Gideon couldn't conceive of how the work at Idaho National Laboratory (INL) intersected with his field of psychology. Now he's using the U of I's state-of-the-art simulation lab to help support research toward modernizing nuclear power plant control rooms at INL.

Gideon uses the Rancor simulator developed by U of I alumnus Tom Ulrich to study operator performance in advanced control room prototypes. The goal is to help INL minimize errors, prevent accidents and enhance the efficiency of nuclear plants. The simulator in Professor Ben Barton's Palouse Injury Research Lab (PIRL) at the U of I Student Health Center informs much of Gideon's research.

Gideon's journey from working in human resources in Nigeria to supporting research in nuclear operations safety and efficiency at INL started with his wife, Akorede Seriki. She left their home country to pursue a doctorate in biology at the U of I. She learned about Barton's lab and thought it might be a good fit for her husband, who was seeking an opportunity to study in the U.S.

"In this area of human factors, there are a lot of pieces from different fields coming together, and that's what attracted me to it," Gideon said. "I have zero background in psychology, so the first few classes were a shock to me. But my professors were very helpful and supportive. I stayed up late many nights to wrap my head around the psychology concepts and really enjoyed doing that. "

Barton and his students explore human factors that can lead to human error and accidents in various settings. In the nuclear industry, accidents can be catastrophic, hence the need for research to promote control room safety. However, the limited human operator availability and huge cost of the facilities are barriers to nuclear control room research. Rancor simulation provides an environment for conducting basic psychological research in nuclear plant process control with novice operators, such as students, making the U of I's simulator facility a valuable resource.

"We finished the simulator facility just last year after about 12 years of work went into it, and it's a state-of-the-art, totally self-sufficient simulation," Barton said. "The basic idea is, we're not able to bring nuclear reactor operators from INL for studies, but we're using smaller simulations, like Rancor, to train novices and have them run the reactor and respond to different situations to help us understand the psychological factors at work."

Ulrich, who has worked at INL as a researcher since 2017, was Barton's master's student and the first Human Factors Psychology program doctoral graduate. Gideon interned with Ulrich last summer and will continue working with the team in Idaho Falls this year as he begins his dissertation, exploring the potential impact of advanced control room designs on operator cognitive performance.

The Department of Energy awarded \$150 million to INL for infrastructure improvements late last year, the latest significant investment in nuclear energy. The U of I plays a key role in not only supporting research and development efforts, but also educating the engineers, scientists and even psychologists to work in the nuclear energy field.

"Our simulator facility is really valuable for applied plant modernization research," Gideon said. "We're vital partners for INL."

Go Vandals!

C. Scott Green President



Snapshots

U of I featured on The College Tour

The College Tour episode highlighting the U of I is now live on Amazon Prime and Freevee. The 28-minute program hosted by Alex Boylan tells stories of U of I students and provides information about the campus for prospective students and their families. The U of I is featured in the fifth episode of Season 7. Learn more.

Vandal Giving Day ambassadors needed

Vandal Giving Day starts at 10 a.m. Tuesday, April 4, and the U of I is seeking help to make this year's online giving event the most successful ever. Those who sign up to be Vandal Giving Day <u>ambassadors</u> will receive everything needed to create quick social media posts that encourage donations to support student success and the U of I's life-changing programs. <u>Learn</u> <u>more</u>.

Freshman flutist earns trip to Carnegie Hall

Lionel Hampton School of Music student Adriana Varn made her debut at one of music's hallowed venues, playing at Carnegie Hall last month after a U of I professor urged her to apply for the Worldstride Honors Performance Series. A scholarship from the Office of Undergraduate Research helped pay for Varn's travel to New York City. <u>Learn more</u>.



U of I's new men's basketball coach, Alex Pribble, played at California-Berkeley for coach Ben Braun. He graduated from Cal with a bachelor of science in sociology in 2007 and a master's degree in education in 2008.



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