

FACULTY SPOTLIGHT DR. JEFFREY KING



Dr. Jeffrey King, of the Materials and Metallurgical Engineering (MME) department, is currently working on research with undergraduates and graduate students in the Nuclear Program at Mines. Although he mainly focuses on his work with graduate students, he has found that introducing students to research starting in their undergraduate years has brought greater successes for undergraduates in the past.

New in Nuclear

Dr. King's research is almost entirely centered around the Nuclear Program at Mines. In Dr. King's lab there are three main areas of research.

"I generally say [my areas of research are] additive manufacturing for nuclear applications, what I'm calling nuclear science and imaging—which basically is neutron radiography—then the third one is space nuclear applications."

Based on experiences in his home department of MME, King believes the ball is rolling for nuclear materials once again.

"I think that we have the possibility to grow our research in the nuclear area quite a bit. Mines has the opportunity to become even more of a leader in that field. There's a lot of interesting challenges and opportunities there."

Why do Research?

Research offers students the unique opportunity to step out of the classroom and get real world experience. Dr. King encourages students to take all research opportunities available because they allow students to find answers to questions that instructors don't even know. King also explains how research helps students become more confident.

"There is a certain amount of confidence and willingness to take risks and express yourself that research helps to cultivate."

Undergraduate research is also a low-stakes way for students to determine whether or not they want to move onto a graduate program with that professor.

"It is absolutely, for me, relatively low cost [to have undergraduate researchers]. And, it's an opportunity for students who think they might want to go into research to discover if that's really what they want and if we may work well together. There's a whole point of figuring out who you work well with and so it's a trial run for the student."

Networking, Networking, Networking

For undergraduates who want to try their hand at research before going on to graduate programs, it can seem intimidating to get a foot in the door. Currently, Mines does not have a registry of all the research being done on campus and the areas where undergrads can get involved. Instead, students have to take the initiative themselves and ask around.

When asked about how he finds his undergraduate students King said, "most of my students come to me through referrals or they show up on my doorstep asking questions. So, I would say the best way [to get involved], if you really want to be involved in student research...[is] to be inquisitive and persistent."