

DR. HEATHER WHITLEY '02
College of Arts and Sciences | Sciences and Social Sciences

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“I’ve seen New Mexico State University graduates making a positive impact across the world. I’m proud to be an Aggie.”

Program bio | 2,958/3,000 characters

Dr. Heather Whitley began working for Lawrence Livermore National Laboratory in 2007, 11 days after filing her doctoral thesis. Today, she serves as Associate Program Director for High Energy Density Science in the Weapons Physics and Design Program. She received the Presidential Early Career Award in Science and Engineering in 2011 and was twice presented with the National Nuclear Security Administration Defense Programs Award of Excellence.

She is part of the team that made history with one of the most significant scientific achievements of our lifetime: nuclear fusion ignition in the laboratory. Her role was to develop computer models used in the design of the experiments.

The eldest of seven children, Heather grew up in Silver City and Roswell, NM. Her parents encouraged academics early on—her mom taught her to read at the age of three and Heather participated in multiple mathematics competitions in eighth grade. Math was her first love, but it was a physical sciences class in high school where she first learned how math describes the way things work in the natural world. Working with her dad in the garage contributed to her aptitude for technology. Before he passed away in 2010, he told her, “Be seen as an example of what’s possible.”

At NMSU she earned bachelor’s degrees in chemistry and French, with a minor in physics. She credits her professors with teaching her the importance of community, mentorship, and being open to new ideas and possibilities. Although in high school she liked “doing stuff in the lab with chemicals,” at NMSU she was encouraged to look more broadly and introduced to theoretical chemistry and coding. Her professors also suggested she consider graduate school and helped her understand what a career in science could really look like.

To this day, Heather remains exceptionally proud that, more than 20 years into her career, her most highly cited paper is from her undergraduate research with Associate Professor David Smith. Her success at NMSU led to a National Defense Science and Engineering Graduate Fellowship, and she attended the University of California at Berkeley for her Ph.D.

Heather says working at a national lab allows her to contribute to society and national security through applied science, but credits “soft” skills with helping propel her to leadership positions. In addition to her technical skills, she is known for tactfulness and her ability to communicate complex ideas in ways that non-scientists can understand. “Most of the interesting problems occur at the intersection of sciences,” and asking questions and taking calculated risks to find creative solutions are part of her strategy for supporting her team's success.

Heather's advice for students is based on the profound influence of her grandmother, who went to work to support her three children in the 1970s after a divorce: "Plot your own course, and don't let anyone else tell you what you can and can't achieve."