

## Student research: A transformative experience

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Madeline Sell, left, talks about her research with donors Julian and Julia Landau at an event, “Transformative Experiences: Students in the Laboratory,” on Nov. 5 at the Tulane School of Science and Engineering. (Photo by Paula Burch-Celentano)

Madeline Sell, a senior at Tulane University, is working with a team of researchers at the [Tulane Cancer Center](#) to link common elements in the environment to cancer.

[Astrid M. Roy-Engel](#), associate professor of epidemiology, advises Sell as she is working to uncover how metals nickel and cadmium cause cancer.

“For the past two years, I’ve pored through all of the DNA sequences in our

database of exposed individuals,” says Sell, a [chemical and biomolecular engineering](#) major from Phoenix. “I’m trying to identify evidence of a new way that metal exposure creates changes, or inserts, in the DNA.”

Nickel and cadmium are found in nature from tobacco smoke to batteries. If Sell is able to prove her findings, then she can show a new way that metal exposure increases the risk of cancer.

Julian Landau, a 1970 Tulane graduate who majored in chemical engineering, funded a grant that allowed Sell to devote more time to the project this summer.

“When I was an undergraduate at Tulane, I completed an honors research project that proved both interesting and rewarding to me,” says Landau. “The exposure to research at this time in my education was invaluable to an understanding of how to approach solving new problems. Those students that seek this opportunity should have the support to do so, but while there are significant funds available for graduate research, there are always limited funds for undergraduate research.”

The research work that Sell has conducted as an undergraduate has shaped her future career plans. She hopes to become an industry-level researcher.

“My research background has given me skills to apply to a variety of different jobs,” says Sell.

Sell and student researchers from throughout the Tulane [School of Science and Engineering](#) gathered on Nov. 5 to celebrate research opportunities Tulane donors make possible.

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