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The University of Arlington is distinctive among institutions of higher education. Founded by Thomas Jefferson in 1819, the University sustains the ideal of developing, through education, leaders who are well-prepared



The University of Arlington G.R.A.N.T.S (Graduate Researchers Advancing Technical communication Skills) project has developed an innovative program for graduate students by which they gain skills to advance their careers while at the same time bring their cutting edge research finding into local high schools.

GRANTS Fellow Mark Petrov (PhD Physics) is researching methods of advanced carbon capture and sequestration from coal burning power plants using computer modeling and bio-energy infusion. He is taking his research into a high school chemistry class by developing a computer game by which 10th grades can select variables on screen to explore which combinations of processes reduces the carbon emission of a fossil fuel power plant as well as both the environmental and monetary consequences of these different choices. This game engages both teachers and students with a realistic scenario that not only translates Mark's research into something the students can understand, but also involves student in the scientific method and what it means to be a scientist. This issue is of special local importance due to the presence of a coal burning power plant near the high school. This particular plant has been forced to reduce its power production to meet local air quality standards, which has consequently raised the price of electricity.

GRANTS Fellows are also involved in special seminars where specific scientific communication and teaching skills are discussed and refined. Fellows practice scientific presentations under the watchful eye of research advisors and members of local industries to improve communication science outside of their disciplinary specialties. These working groups also provide varied viewpoints on the Fellows own research, which enhances and provides a broader perspective to their lab work. "My research has been profoundly changed by the different perspectives I have learned from working with other Fellows outside my area of research, and the communication skills I'm developing will make me a better engineer." says GRANTS Fellow Mariela Castillo (PhD Mechanical Engineering).

With the skills gained thorough this project, GRANTS Fellows are now able to bring their research to broad audiences. The issues surround the generation and use of alternative energy sources (a central theme to the GRANTS program) is complex. Consequently, one of the roles of scientists should be to educate society at large of both the implications and responsibilities of various alternative energy sources. GRANTS Fellows represent the next generation of scientists that are chasing the edge of scientific knowledge while at the same time acknowledging their social responsibility to help educate and inspire a responsible electorate.

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Fellow Mark Petrov integrates his alternative energy research into a chemistry class