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Illinois Wesleyan Physics Major Presents Research at Harvard Conference

Jan. 28, 2016

BLOOMINGTON, Ill.— Illinois Wesleyan University [physics](#) major Lunjun (Simon) Liu '17 (Wuhan, China) recently presented his research on cosmic dust at a highly selective undergraduate research conference at Harvard University.

With an interest in astronomy and astrophysics, Liu became involved in research Associate Professor of Physics Thushara Perera's lab after reading about Perera's [National Science Foundation grant](#) to study cosmic dust. "I went to his office right away," Liu recalled "I was fascinated by the project. I was interested in delving into seemingly common things such as dust and gas, believing they can reveal uncommon features such as star formation and supernovae."

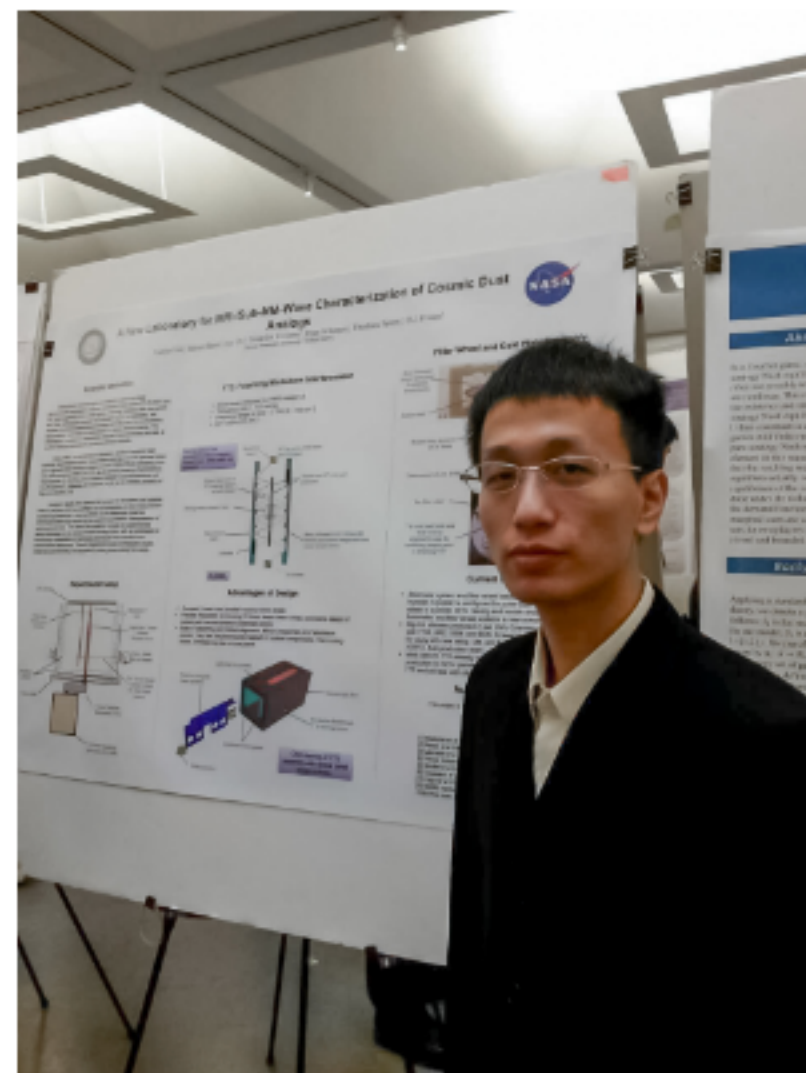
Even though Liu was a first-year student at the time, he was welcome in Perera's lab. Liu's experience is not unique; seven in 10 Illinois Wesleyan students engage in research or creative activity. Perera's research focuses on the study of cosmic dust analogs in the lab. Liu's work in Perera's lab led to his presentation at Harvard, entitled "A New Laboratory for Millimeter/Sub-millimeter-wavelength Characterization of Cosmic Dust Analogs." In his poster presentation, Liu discussed building a novel design for experiments to reduce systemic errors and using the set-up to study optical properties of cosmic dust analogs at millimeter/sub-millimeter wavelengths.

"I love this project because once we figure out the precise properties of dusts, we can provide better interpretation of astronomical data related to cosmic dust," said Liu. "This enhances our understanding of some astronomical interesting regions, especially in star forming regions and how prebiotic molecules form."

The Harvard National Collegiate Research Conference (NCRC), held this year Jan. 21-23, is a platform for undergraduates across the nation to share their interest in research in fields ranging from biology and chemistry to political science, history and music. Liu said he was one of four students presenting posters in astrophysics; the others were students at Harvard. Liu said his most important takeaway from the conference was the opportunity to talk at length with Daniel Eisenstein, the director of the Sloan Digital Sky Survey (SDSS-111), creators of the most detailed, three-dimensional maps ever made of the universe.

In discussions with Eisenstein, "I learned advanced methods utilized in cosmology, and his words inspired me to delve deeper and deeper into astrophysics," Liu said.

He said the opportunity to get involved in research as a first-year student was an important initial step in his ultimate goal of becoming an astronomer. "At first, I was just like a blank paper with regard to astrophysical concepts and experiments," said Liu. "So it was quite significant to work closely with Dr. Perera. Now, our conversations tend to be discussions because I am able to provide solutions and suggestions." After graduation from Illinois Wesleyan, Liu plans to pursue a Ph.D. in astrophysics.



Lunjun (Simon) Liu '17