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### Research with a passion

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**Research with a passion**

*Summary: University of Minnesota, Morris student KauChee Vang sets a shining example of dedication to human service with her passion for public health and helping an under-served population.*

(November 18, 2008)-University of Minnesota, Morris (UMM) student KauChee Vang sets a shining example of dedication to human service with her passion for public health and helping an under-served population.

A third-year UMM student from St. Paul, Vang majors in biology and hopes to attend pharmacy or graduate school, with the intent of conducting research that will make a contribution to the public health field. She is the first generation of her family to go to college, which strengthens her will to succeed and give back. Prior to UMM, she attended Central High School and took advantage of the Post Secondary Enrollment Option (PSEO) at Concordia University in St. Paul.

Vang spent June through August 2008 as a paid intern in the world-renowned Mayo Clinic in Rochester. She worked in the neuroimmunology laboratory, one of over 60 labs at the Mayo Clinic. Her lab work included analyzing immunoassays that she examined for specific antigen binding to antibodies. The tests were conducted on samples from Mayo Clinic patients who typically had immune disorders or serious problems regarding the nervous system in conjunction with the brain, sometimes indicating cancer. Patients were usually at a critical stage in their treatment, which made the correct interpretation of the results especially crucial. The results of Vang's testing aided in the diagnostic process.

Perhaps Vang's most notable project while at the Mayo Clinic was working on the development and improvement of immunoassays. Specifically, she worked on an aspirator that could be used on western blots during washing. Her goal was to find the most efficient way for the aspirator to be used. To accomplish that she considered the cost of the device, timing of the test and the quality of the results. This was new to her, because the focus was on development and efficiency rather than the hard science aspects of the medical world. Her findings were actual contributions to the Mayo Clinic, and, ultimately, to the medical field.

As an intern, Vang was considered an employee of the Mayo Clinic. She was given a conventional orientation, was paid on salary and lived in apartments provided by the clinic. A primary highlight of the experience, Vang said, was meeting the director of her lab, Dr. Vanda Lennon, a widely known and respected doctor in the field, along with many other research professionals and graduate students. She added that the Mayo Clinic internship was invaluable because it further impassioned her as well as provided a format for improving her critical decision-making skills in a pressure and professional environment. "I believe being at the Mayo Clinic for a summer taught me to continue pursuing higher education, especially being in the first generation of my family to go to college," said Vang.

The Mayo Clinic experience is highly relevant to Vang's career ambitions as well as to the research she is a part of as a UMM student. She became interested in research after hearing about the Morris campus' Multi-Ethnic Mentorship Program (MMP) during her second year at UMM. MMP encourages second-year multi-ethnic students to work with faculty on research projects. Vang's research at UMM, in collaboration with Professor of Biology Timna Wyckoff,

concerns the study of antibiotic resistance. The aim of the research is to locate a gene that expresses resistance to antibiotics targeting the bacteria Staphylococcus, which Vang and Wyckoff are identifying by taking milk samples from organic and conventional dairy farms. More specifically, Vang is conducting research focused on a gene responsible for resistance to the antibiotic Pirlimycin. The research has significant real-world applications to public health because it is addressing antibiotic resistance development.

Wyckoff said of Vang: “She is one of the hardest working students with some of the best study skills I have ever worked with. She is very disciplined, which makes her a rewarding and fun student to work with. Her research with me and her work in Rochester last summer are both building a great foundation for whatever direction in the health sciences she decides to pursue after graduation.” The respect is mutual, as Vang added, “Dr. Timna Wyckoff took me under her wing and allowed me to see what research is all about.”

Vang attributes much of her involvement to Wyckoff and her sister, Pa Houa Vang, saying that they both played critical roles in her decision making process through their constant support and encouragement. “I want my world to also represent the people who had made an impact in it. They are really the ones to be recognized.”

Like KauChee, Pa Houa is a third-year UMM student with ambitions regarding health care. However, the paths they have chosen to address this issue are very different. Pa Houa is a management major with an emphasis on human resources and organization. Both sisters are passionate about public health, although the routes by which they plan to approach the issue are on seemingly opposite ends of the spectrum. While KauChee plans to work as a pharmacist or with research and development, Pa Houa will contribute administratively. Of KauChee, Pa Houa said that local community health problems motivate her and that it makes her happy to change people’s lives. She said, “My sister and I are mirrors, shining back at one another with a world of possibilities, ambitions, laughter and happiness. Together this creates our bond as sisters and friends.” KauChee added, “My sister and I are very close. We did not plan to go to college together, but we did and I love it. She has really been there for me.”

There is no doubt that KauChee Vang has taken complete advantage of the opportunities offered by the University of Minnesota, Morris and will use her knowledge and experience to contribute to the public health field. She gives advice for other UMM students driven to succeed: “Embrace our opportunity and ask questions. Be yourself, set some goals and dream big. Respect the people around you and you will be all right.”

Research that Vang has worked on with another student, Josie Skala, was recently presented by Skala at the Regional American Society for Microbiology in October 2008, and Vang plans to present results of her research during the annual UMM [Undergraduate Research Symposium](#) in Spring 2009.

Photo: Wyckoff, KauChee and Pa Houa

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