

*Cloquet High School Senior to Share Her Science Research with President Obama, October 18<sup>th</sup>, 2010.*



Courtney Jackson, a senior at Cloquet High School will be flying out of Duluth, MN this Sunday with an appointment to visit the President of the United States on Monday morning. She and five other bright young scientists from across the nation will be sharing their science/engineering research with President Obama. Jackson was recommended to present to the President by The American Indian Science and Engineering Society who sponsor the National American Indian Science and Engineering Fair held in Albuquerque, NM ([www.aises.org](http://www.aises.org)). Jackson has attended this national fair the last four years and each year was one of their top Grand Awards winners. Jackson's travel to NAISEF has been sponsored by National Science Foundation with the University of Minnesota Geoscience Alliance and their Diversity Director Diana Dalbotten and Alyssa Burger, Educational Outreach Director. As well as by Holly Pellerin and Fond du Lac College and Cloquet Public Schools.

Last year, at the University of Minnesota Duluth, Courtney attended the 57<sup>th</sup> NE MN Regional Science Fair which this year will be held Feb. 5<sup>th</sup> at UMD, student attendance at this fair is sponsored by Cloquet Public Schools and the Cloquet Educational Foundation. From that fair she advanced to the Intel International Science and Engineering Fair. At this international fair there are over 1,600 students from over 50 countries competing for over seven million dollars in scholarships and prizes. Courtney has been doing science fair research with her teacher/mentor Dr. Cynthia Welsh, EdD, since she was in seventh grade. Her first research project was an analysis of the effect of acid rain on lichen diversity and density. The following year she expanded her study of lichen and acid rain to include an analysis of the effect of acid rain and proximity to a paper mill on tardigrade (water bear) populations. Both years of study

her lichen/tardigrade projects won many regional, state, even national awards. Her eighth grade year her project was selected by the Society for Science and the Public as a Discovery Science Young Challenge National Semi-finalist (1 of 9 from Minnesota).

Courtney's varied interest in science led her to research a new field of study her ninth grade year. Even though she had a nationally acclaimed project with many avenues of continued research, she realized after taking an earth science class that she might want to make geology/meteorology a future career. At the start of Courtney's ninth grade year, she and Dr. Welsh toured the geology department at the University of Minnesota Duluth, where she was introduced to Dr. Vicki Hansen. Dr. Hansen is working to map the surface of Venus using Magellan radar data. She told Courtney, if she was interested, she would give her an area of Venus never mapped before and would borrow her an external monitor to do the mapping. Everyday, for nine months, during her lunch hour she mapped Venus. Using the map data to determine the overall geologic history of the area, how the area varies in space and time and if it formed by endogenic or exogenic processes. Last year, she did an analysis of her three maps and Dr. Hansen's fifty-six to look for patterns indicating possible process(es) of coronae formation. This year she hopes to expand her mapping research by redoing her previous maps, since her mapping skill level has advanced over the years. She also worked with Dr. Hansen to learn how to draw cross sections of her maps to further proposes the geologic processes that shared the surface millions of years ago.

Courtney's leadership skills and passion for science and her project were not only appreciated by the younger students and their parents on her recent trip, but by the judges at the many science fairs she has presented at. These fairs include the Northeastern Minnesota Regional Science Fair [www.nemnscifair.org](http://www.nemnscifair.org), the MN Academy of Science State Science Fair [www.mnacadsci.org](http://www.mnacadsci.org), the National American Indian Science & Engineering Fair (NAISEF) [www.aises.org](http://www.aises.org), and the Intel International Science & Engineering Fair (ISEF) [www.societyforscience.org/isef](http://www.societyforscience.org/isef). Two years ago at the international fair Courtney's project won two awards including the Association for Women in Geoscientist Award and the Society for Exploration in Geophysics Award. Two years in a row, her project at the National American Indian Fair, was selected as NASA's top high school project. Her research papers have been selected to present at three Junior Academy of Science Tri-state Symposiums.

Representing the American Indian Science and Engineering Society for the last two years she traveled to their professional conferences, this year in Portland, Oregon where she presented a research poster. Last year, she also presented her work at the American Geological Union (AGU) Professional Conference in San Francisco, CA. Her research has been mentioned in the 2008 professional publication TLE The Leading Edge: The Society of Exploration Geophysicists. She has a published article in a 2008 edition of the journal titled John Hopkins University Center for Talented Youth: Imagine Big Ideas for Bright Minds, titled Mapping Venus. I would need many pages to list all of the awards and accomplishments she has gained.

Even though Courtney's science project takes up a lot of her time she still manages to be a truly well rounded individual. She participates in *Destination Imagination*, student council, choir, fall and spring plays, and plays a leadership role as school Ambassador for Upward Bound, a college preparatory program. What amazes me is that she has done all of this while having many good friends, being in the top ten percent of her class and maintaining a 3.9 GPA!

Jackson hopes to attend college next year and major in meteorology/geology. Her perfect idea of a dream job is either a storm chaser or volcanologist; she is a young lady that loves an adventure. "Meeting the President will be my biggest adventure yet!"

