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FOR IMMEDIATE RELEASE

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Cal Poly Student Takes First Place in National Research Symposium Contest

SAN LUIS OBISPO —Cal Poly environmental soil science senior Patrick Michelsen won first place in the Oral Undergraduate Research Symposium Contest held during the 2014 International Annual Meetings of the American Society of Agronomy, Crop Science Society of America, and Soil Science Society of America in Long Beach.

Patrick's presentation was titled "Environmental Ramifications of a 120-Year-Old Railroad Bridge Painted in Lead Paint." The study focused on the influence of wind and water flow in the distribution of lead — a known human toxin — in the soils, plants and sediments in and around Stenner Creek, which surrounds Trestle Bridge, a structure constructed around 1894 at Cal Poly. His findings demonstrated the importance of wind in transporting lead to the soils directly under and downwind from the bridge.

Michelsen, along with student co-authors in a soil and water chemistry course, took samples of the original paint used to cover the bridge as their original lead source. Soil and plant samples were taken upwind, downwind, and directly underneath the bridge and from varying depths directly underneath the bridge.

These samples were measured and it was found that the material has very low ability to leach through soil and contaminate nearby groundwater, which is a result of the reactive nature of lead with soil particles. The results also indicate that lead migrates relatively easily by wind dispersal.

The paper was co-authored and advised by Cal Poly soil science alumnus Craig Stubler, a technician in the Natural Resources Management and Environmental Sciences Department, and Chip Appel, professor of environmental soil chemistry and also a Cal Poly alumnus who holds a bachelor's degree in biochemistry and a master's in agriculture with a soil science specialization.

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