

# Thornton Tomasetti

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## **Rural Bolivian Bridge Completed by Duke Engineering Students with Help of Funding from Thornton Tomasetti Foundation**

**(Oruro, Bolivia – February 2, 2010)** – A much-needed rural bridge, designed and constructed by engineering students from Duke University’s Engineers Without Borders chapter with funding from the Thornton Tomasetti Foundation, opened with a special blessing ceremony on January 25 outside the village of Obrajes near Oruro, Bolivia.

The Thornton Tomasetti Foundation awarded an \$8,000 grant to the Duke University students to help complete the bridge, which was needed to help transport people, crops and livestock from the rural communities of the Iruma River valley to the nearest city to sustain the livelihood of villagers year round. During the rainy season, flooding of the local river previously made connection to the roads leading to the regional capital of Oruro impossible. This small new bridge will help these rural communities thrive for years to come, regardless of the weather.

“In addition to providing fellowships, scholarships and internships, the Thornton Tomasetti Foundation was also established to support the philanthropic work of individuals and organizations related to engineering, design and technology,” said Richard Tomasetti, chairman of the Foundation. “We are extremely pleased to have been able to support the work of these Duke University students in building this bridge, which will mean so much to support the livelihood of these Bolivian villagers.”

The project was first undertaken several years ago when Dr. Christine Beale, an archaeologist from the University of Hawaii doing site research, brought it to the attention of Duke University’s engineering department. In the summer of 2008, students from Duke traveled to Bolivia to take survey data of the region, looking at five sites for a possible bridge. In February 2009, in consultation with the local engineering department, they selected a site near the village of Obrajes because of its proximity to existing local roads and hard rock in the riverbed that would provide stability.

When the student team left Bolivia in July 2009, they had completed the foundation and poured the first lifts of all the piers, in addition to the second lift of one of the piers. They put together an instruction manual in Spanish detailing the steps that needed to be taken in order to complete the project. They gave the manual to a committee of villagers and

with the oversight of an engineer from the La Paz-based NGO Engineers In Action, the community pulled together the labor and drive to complete the bridge with continued support from Engineers Without Borders.

The bridge design took place under the supervision of Dr. David E. Schaad, associate professor of the practice at Duke University, who was instrumental in moving the project forward. The bridge was designed so that it could be easily maintained by the local communities, taking into account access to materials, workers and a strict timetable. An initial grant of \$8,690 from the Lovino Family Foundation for project costs was contingent on the students receiving funding commitments for the other half of the projected \$17,380 project. The students raised \$1,000 privately and the Thornton Tomasetti Foundation grant ensured that the project moved forward.

“The incredible experience the Duke student team had while we were in Bolivia will prove unforgettable. It will serve us as we pursue higher education and careers in engineering by having provided us with practical knowledge that few of our peers have had the opportunity to acquire,” said Patrick Ye, project chair for the bridge team. “From the on-site design calculations and modifications we made, to problem solving in order to build the bridge to the specifications of our design operating on a limited supply of tools and materials, this project both enhanced our education and inspired us as engineers. Duke Engineers Without Borders wanted to say thank you to Thornton Tomasetti for their generous support of this project. Without this support, it would not have been possible to bring this village the bridge it so desperately needed.”

At the blessing ceremony, many of the town officials gave speeches expressing their deep gratitude for the support they received to help them realize their dream to have this bridge and the access it will provide for the entire village.

### **About the Thornton Tomasetti Foundation**

The Thornton Tomasetti Foundation, a tax-exempt, nonprofit organization established in February 2008, has two primary missions including funding fellowships, scholarships and internships for undergraduate students, and those planning to pursue graduate studies in building engineering, design or technology and providing financial support for individuals and organizations pursuing philanthropic activities related to building engineering, design or technology. Key elements of the program are college scholarships, traveling internships, and grants to, and partnerships with nonprofit organizations.