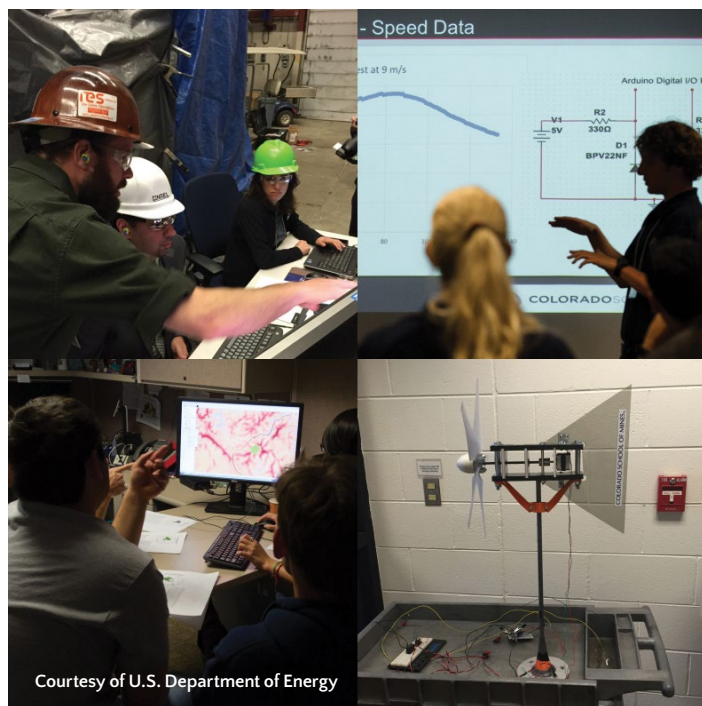


## BOISE STATE TEAM CLAIMS 2015 COLLEGIATE WIND COMPETITION



Courtesy of U.S. Department of Energy



The team from Boise State University were the overall winners of the 2015 Collegiate Wind Competition. Photo by Dennis Schroeder / NREL

Seven teams of students from across the country gathered at the National Renewable Energy Laboratory's National Wind Technology Center from April 29 – May 1 for a fierce blade-to-blade wind turbine rematch. At the Department of Energy Collegiate Wind Competition 2015 Engineering Contest, teams of undergraduates tested original designs of model wind turbines in an on-site wind tunnel and presented their technical designs to wind technology experts.

The full Collegiate Wind Competition, comprised of engineering, business, and deployment tasks is held during even num-

bered years and is designed to challenge undergraduate students from a variety of disciplines to develop unique solutions to complex wind energy problems. Teams that participated in the inaugural 2014 competition in Las Vegas, Nevada were invited back to improve upon their designs and technical solutions during last week's contest.

Competing teams included the University of Massachusetts at Lowell, Colorado School of Mines, Pennsylvania State University, California Maritime Academy, Boise State University, Northern Arizona University, and Kansas State University.

As teams gathered at the NWTC, the sense of camaraderie that swept through the competition was underpinned by the bonds that teams had formed with one another during the previous year's competition. The air was thick with excitement as each university unpacked and assembled their individual wind turbine designs, protecting their trade secrets so as not to give away information that could benefit a competitor. Standing at a hub height of two feet, each team's turbine was a unique scale design inspired by the modern wind turbine.

Throughout the day, teams were overheard swapping tools and spare parts and trading guesses over what this year's surprise challenge would be. Under the eye of some of the industry's brightest innovators, teams made last minute adjustments and shared stories of design blunders and successes.

However, joviality was set aside once the competition began. University of Massachusetts, Lowell raced against the clock as they waited for a replacement part to arrive in the mail so that they could compete. During their first test in the wind tunnel, Kansas State's turbine controller went up in smoke due to a faulty wiring configuration.

This year there was the addition of a surprise challenge. Teams were given a set of criteria that included the location of transmission lines, access roads, local demand, and integration facilities, and tasked to use their knowledge of wind energy systems to determine the perfect location for a new wind plant that would produce energy at the lowest cost possible. Every team could be seen making last minute adjustments and repairs to ensure their turbines would operate at peak performance.

While each team excelled, Boise State University was named the winner of the Collegiate Wind Competition 2015. Cal Maritime placed second and Penn State, last year's champion, finished third and also won the surprise challenge.

Since the Collegiate Wind Competition is intended to inspire and equip the next generation of wind professionals, the involvement of the wind industry is critical. The Energy Department collaborated with Siemens Wind Power, Vaisala, Renewable Energy Systems - Americas, ReGenerate, Invenergy, KidWind, and the National Renewable Energy Laboratory to make the Collegiate Wind Competition 2015 Engineering Contest a success. The Energy Department's Wind Program leads the nation's efforts to accelerate the deployment of wind power technologies through improved performance, lower costs, and reduced market barriers. ↴

— Source: U.S. Department of Energy, EERE