

# Local Lego League team honored at national engineering conference

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Published:  
Wednesday, May 5, 2010 1:15 PM CDT

WELLESLEY, MASS. — A plan to use algae to clean school bus exhaust earned a group of local youths a national honor and trip to the Boston area.

The “Robo Rebels” were selected one of five winners of the Extraordinary Stories Award given at the National Academy of Engineering Grand Challenges Summit April 21 at Wellesley College.

Sponsored by three colleges and a nonprofit foundation, the award honors young inventors and researchers who are attempting to help solve environmental issues. This year’s other four winners were college students and post-graduates.

Each winning group received a \$3,000 cash prize and expenses-paid trip to the conference.

The Robo Rebels — comprised mostly of White Bear-area students — submitted research they’d collected as part of their FIRST Lego League project. The league challenges youths, ages 9 to 14, to conduct a research project and build a robot. According to coach Scott Boyd, the Rebels have competed for five years, earning a number of honors.

Their 2007-08 project recommending installation of a wind turbine and automatic light dimmers at the White Bear Township office won them the state title in their division and a second-place Innovation Solution Award at the international competition.

At this year’s Lego League state championship in Mahtomedi, the Rebels won the Innovative Solution Award, presented to “the team that has the most thought-provoking and innovative resolution to the research challenge assignment.” The Rebels also were finalists for a Research Quality Award.

The Rebels designed a school bus exhaust filtration system that uses algae to consume carbon dioxide (CO2).

Their slogan:

“We have a filter for you. It’s full of algae and gets rid of CO2, keeps the environment green, keeps your lungs clean; this is an awesome machine.”

They consulted with University of Minnesota algae researcher Min Min and The Center for Efficient School Operations President Chuck Corliss.

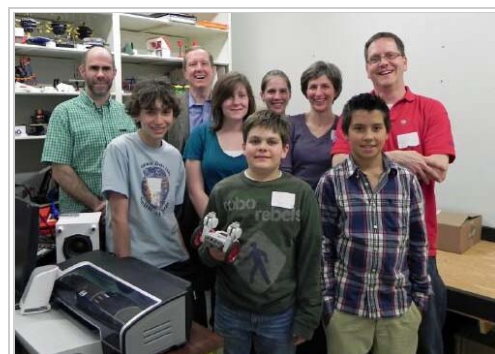
They learned algae absorbs a high level of CO2 and found a species that can sustain high temperatures. Their “algae tube filtration system” features a \$40 tube with 20 pounds of algae that filters the exhaust. It could reduce buses’ carbon dioxide emissions by 30 to 50 percent, they found.

The team also researched nitrogen oxide filters, but those are much more costly.

The award sponsors sent a professional videographer to White Bear Lake to produce a video about the Rebels and their project. Watch it at [www.grandchallengestories.org/stories/story/113](http://www.grandchallengestories.org/stories/story/113).

Along with attending the Boston Grand Challenge Summit, the Rebels got to tour FIRST headquarters. They also met FIRST Founder Dean Kamen and toured his company, DEKA Research & Development Corporation.

The team’s eighth-graders are graduating to the high school level FIRST Robotics Competition next year. White Bear Lake Area High School has a team and Boyd hopes to start one at Mahtomedi High School.



The Robo Rebels visited the FIRST headquarters. From left are FIRST Lego League mission coordinator Scott Evans, Robo Rebels member Nick Boyd, FIRST President Paul Gudonis and Robo Rebels members Lilly Bullis, Nathan Haugen, Laura Sevcik, Sarah Sevcik, JonCarlo Cabrera and Scott Boyd. -Submitted photo

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