

SEAOI ACKNOWLEDGES EFFORTS OF FUTURE ENGINEERS AT 2009 STATE SCIENCE FAIR

Chicago: SEAOI was present at the Illinois State Science Fair to judge and award the efforts of the next generation of structural engineers. The statewide educational competition is sponsored by the Illinois Junior Academy of Science and brings together the top 1000 science projects prepared by students at the junior high and high school level and is hosted at the Assembly Hall on the University of Illinois campus in Champaign-Urbana.

Selection of the top projects began at the school level with students competing against their classmates. The winners of the school competition advanced to the regional level where they competed against the top students from other schools. The winners of the regional competition met for the final round of state competition on May 9, 2009.

Todd Alwood represented SEAOI in judging projects in the Engineering, Material Science, and Physics categories. On behalf of the Board of Directors and all members of SEAOI, a Certificate of Outstanding Mention and a \$100 American Express card was presented to the top project entered in the category of Engineering. In addition, three other students were awarded certificates of Honorable Mention and \$50 American Express cards for their projects. Through the presentation of these awards and acknowledgment of the effort put forth, SEAOI is supporting and encouraging these young students to continue their interest in structural engineering.

At this year's science fair, 17 projects related to structural engineering were judged. Among these projects, the majority were in regards to bridges; constructing and then testing the strength of different bridge types to determine the most efficient. Other projects focused on studies of various beam shapes, effects of moisture on the strength of wood, concrete strength if water was the variable, and stability of buildings during earthquakes.

SEAOI presented the top award to Clayton Summers of Mt. Carmel Middle School for his project titled "Which type of Card Structure Can Hold the Most Weight?" He used three different card configurations and loaded them at specific increments. The first was several diagonals supporting a flat card "roof", the second was four cards in a square supporting a flat card "roof", and the third was a series of cards set in a grid of four squares supporting a flat card "roof". Where other competitors had photos or even videos to explain or document their testing, Clayton was able to show first hand (and in real time) the effects to his card structures. During the testing of his final structure (the grid), only one portion of the structure collapsed with the other three remaining – and he then went onto explain the benefits of this type of configuration in designing real buildings (he just didn't know that we already call it progressive collapse!). The three other Honorable Mention winners were 1) David Kneip of the Chicago Public Schools who studied and tested different configurations of beams from laminated to truss to I-shaped sections (this section was able to take over a 1000 lbs) all made of wood and 2'-0" in length, 2) Bridget Donahue of St. Paul of the Cross who looked into different bridge configurations composed of connector sets to test her assumptions on which could carry the most load, and 3) Alexander Bofani of Woodland Middle School who studied the effects of earthquake loading on his Lincoln Log structures and whether interior supports/bracing help the structure withstand greater and longer loadings (it did!).

Our sincere congratulations to all students everywhere who worked to develop projects to test and investigate aspects of structural engineering. The future belongs to these young inventors and innovators, and to their spirit of discovery.

Submitted By: Todd Alwood