Nancy Williams Volunteers as a Judge at the CT State Science Fair
Quinnipiac University, March 10-11, 2010

Nancy Williams volunteered as a judge at the CT State Science & Engineering Fair on March 10-11 2010. The Connecticut Science and Engineering Fair (CSEF) (http://www.ctsciencefair.org/) is an annual, statewide science and engineering fair open to all 7th through 12th grade students residing, or enrolled in Connecticut schools and several New York towns. The CSEF started in 1949 as the Northern CT Science Fair. CSEF is a charter member of the International Science and Engineering Fair, an activity of the Society for Science & the Public, Washington, D.C. They are an all-volunteer organization, with all of their funding directed towards students' awards, fair operation, educational presentations, student/teacher workshops, and participation by CSEF winners in the Intel International Science and Engineering Fair (ISEF).

Figure 1: Nancy Williams interviewing students about their science fair project on "Gas, What Happens".

Over 120 schools and two regional fairs send students to the CT state fair. More than 15,000 students in Connecticut and several bordering New York state towns competed in 2010 for spots at the fair. There were 395 projects by 76 teams and 319 individual projects for a total of 476 students (193 female and 202 male) competing at the fair.

The Connecticut Science & Engineering Fair is supported by academic and industrial organizations throughout the state. An important objective of the program is to attract young people to careers in science while developing skills essential to critical thinking. Through science fair participation, students are encouraged to pursue independent work using proper research methods. The CSEF is open to students in grades 7 through 12 and is held annually at Quinnipiac University.

The CSEF has two major divisions, Life Sciences and Physical Sciences, and nine special fair categories including: Applied Technology, Computer Science, Energy, Engineering, Mathematics, Environmental Science, Future Sustainability, Sustainable Resources and Practices, Quinnipiac University Scholarships, and the United Technologies Awards with approximately 400 awards given out this year in these categories.

There were 5 judges from Yale in addition to Nancy Williams. They were: Richard Beebe, Director of Network Engineering ITS Net Services; Laura Brentner, postdoctoral fellow in Environmental Engineering; Carolyn Fontana, graduate student in Forestry and Environmental Studies; Andrew Kusmierczyk, Associate Research Scientist in MB & B; and David Stagg, ITS Net Services.

The first day of the fair, March 10, was the preliminary judging. Nancy Williams was placed in the category of 7^{th} grade life sciences. She worked with 2 other judges and reviewed 18 projects in this category. The first day they chose the top 4 projects in the categories of creativity, research, clarity, teamwork, etc. On the second day, March 11, they met with the student researchers and graded their projects and oral responses to questions in the same categories. The top project chosen by Nancy's group was entitled: "Got Garlic? What to Do When You Have E. Coli?". This team used garlic and a coffee filter to remove and kill *E.coli* in water samples from local, polluted rivers. This project has possible wide-range applications to purifying dirty water in developing countries. The other top projects in this category were: 1) "Get the Lead Out! Can Plants Extract or Absorb Lead from Soil?" In this project the students tried to remove lead from dirt using bean and lettuce plants; 2) "Gas, What Happens?". These students proved that Beano helps reduce gas formed from a mixture of yeast and grape juice (see Figure 1, the students presenting this project were from Monroe, CT); 3) "Effect of Fiber Viscosity on Absorption and Adsorption of Nutrients". This group extracted fiber from 8 different grains and 4 different fruits and vegetables and tested cell absorption of nutrients and minerals. Nancy encouraged all students to continue and expand their projects during the rest of the school year and to return to the science fair again next year.