

INSIDE:

CPCUG's John Sherman Recognized by Fairfax County, 7

Hoaxes, Chain Letters, Sob Stories, 8

Linux Report, 9

Identity Theft/Fraud Alert, 11

The Whole World in My Hand, 13

Citiwide's TechClub, 14

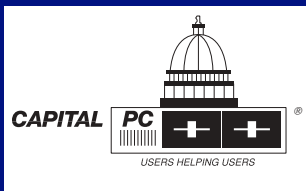
Letters to "Late Nite," 15

Microletter #145, 17

and much more...

CPCUG General Meeting TechTalks

CPCUG General Meeting TechTalks are held monthly, usually on the second Monday of the month. They are free to both members and non-members, but only members are eligible for door-prize drawings. Details about upcoming General Meeting TechTalks are on page 4.



Capital PC User Group Recognizes Young Computer Scientists for Outstanding Science Fair Projects

by Walt Houser

Once again CPCUG recognized talented young computer scientists at our June 14 General Meeting TechTalk. Since 1996 the Capital PC User Group has honored deserving young computer scientists for their outstanding science fair projects. As in past years, CPCUG's volunteer judges were impressed by the intelligence and enthusiasm of these young people.

CPCUG President Dennis Courtney presented the awards — which included plaques, \$50 savings bonds, and one-year CPCUG memberships — for special achievement in exploring computer technology.

Before the meeting, the awardees displayed their winning projects to CPCUG members. These middle school and high school students have much to teach us about their explorations in Computer Science.



Back row, left to right: CPCUG Program Director Gary Vaughan, President Dennis Courtney, Award Winners Nathan Glenn and Joshua Klontz. Front row Award Winners Akimitsu Hogge, Lyonel Dario, Christina Zou, Emily Gilbertson, Lauren Cohen, and Brian Go.

We invited these young scientists to send us electronic copies of their papers for inclusion on the CPCUG Web site, www.cpcug.org/user/scifair/2004/.

Anne Arundel County Fair Winners:

- **Dominic Plourde**, Arundel Middle School: *Egg Drop* — What packaging material will best protect an egg when dropped from a height? Bubble wrap and packing peanuts protect objects better than other packaging materials.

- **Emily Gilbertson**, Meade Middle School: *The Bell Curve*

continued on page 21

Science Fair Award Winners

continued from cover

Loudoun County Science and Engineering Fair Winners:

- **Avek Dayal**, Broad Run High School: *A Robotic Simulation of the Possible Permutations for the Probability of Heads or Tails Tosses*. This project is a robotic simulation of the tossing of a coin. Dayal programmed his robot to move forward if the coin landed on heads and move backwards when it landed on tails. He tabulated how many times it returned to the original position as the number of tosses increased. His results showed that as the number of tosses increased, the amount of times it returned to its original position decreased. Dayal won second place in the Loudoun Fair and participated in the Virginia State Fair in April.

- **Nathan Glenn**, Broad Run High School: *Fundamental Analysis of Multi-Agent Systems in Common Applications*. This project was a study of ways of communicating between simulated agents/computer programs. Multi-agent systems looks to be a fast emerging idea on the Internet and company networks.

Montgomery Area Science and Engineering Fair Winners:

- **Molly Carton**, Holton-Arms School: *3D Cellular Automata*
- **Michael Cohen**, Takoma Park Middle School: *Site Percolation on a Square Lattice*
- **Joshua Klontz and Brian Go**, Bethesda Chevy-Chase High School: *Programming a Model Rocket Flight Simulator*. A program was built to simulate the flight of a model rocket. The results of the tests confirmed that the simulator accurately modeled rocket flight for conventional

rockets; however, it had trouble accurately predicting more eccentric models.

- **Ceryen Tan**, Montgomery Blair High School: *Prevention of Resource Overload in Distributed Network Systems Through Self-Adaptive Algorithms*

- **Akimitsu Hogge**, Takoma Park Middle School: *What's Your Grade? Is Text Compression a Valid Indicator of Grade Level?* This project applies entropy, a concept in data compression theory, to determine the maturity level of a document. The results showed significant correlation between the predicted grade level of the writings and the real grade levels, suggesting that entropy measurement could be developed as one tool to analyze the maturity of a document.

- **Arleen Thukral**, Montgomery Village Middle School: *What Affects Computer Performance the Most: CPU, Memory or Cache?* This project seeks to determine and understand the effects of CPU speed, cache and memory on computer performance, which will make computer buyers more knowledgeable about the best purchases and upgrades for them. The increase in cache increased the computer performance the most compared to the increase in CPU speed and increase in memory.

- **Christina Zou**, Takoma Park Middle School: *Randomness Creates Deterministic Fractals: A Study of the Chaos Game and Sierpinski Triangles*

- **Lauren Cohen**, Montgomery Blair High School: *Novel Algorithms for Surface Plasmon Resonance Data Processing in a Parallel Multitask Environment*. Surface plasmon resonance (SPR) allows for the real-time study of the structure and function of biological molecules at surfaces. Novel computational methods were developed to improve the

speed and accuracy of an SPR multi-channel imaging technique. The polynomial algorithm was found to be more accurate for changes of less than 100 Å, while the integral algorithm was more accurate for larger shifts. The integral method was also up to 250 times more precise and displayed an almost eightfold increase in speed over the polynomial method.

- **Lyonel Dario**, Takoma Park Middle School: *The Effects of Different Amounts of Satellites on the Efficiency and Accuracy of a Global Positioning System (GPS)*
- **Simon King**, Winston Churchill High School: *Pressure Induced Phonon Frequency Shifts in Transition-Metal Nitrides*

Six volunteer CPCUG judges worked hard to select these projects, covering four fairs this year:

John Holland — Anne Arundel Science and Engineering Fair

George Herbert — Loudoun County Science and Engineering Fair

Nancy Landreville, George Liao, Peggy Lucero, and Charles Romaine — Montgomery Area Science and Engineering Fair

Our thanks go to the judges and to the CPCUG board for their invaluable support.

It's challenging to understand and assess the projects, yet rewarding to see these young people doing such good work. This program is an excellent way to bring new and energetic members into CPCUG. Moreover, the awards provide CPCUG with positive visibility with the scientifically literate families of the Washington, DC, area. If you would like to see your jurisdiction included in next year's effort, please contact CPCUG Science Fair Coordinator Walt Houser at houser@cpcug.org.