

Middle School Students Show Flair for Numbers in Columbia-Hosted Math Competition

By Elisha Sessions

Not long after dawn on Saturday, Feb. 4, more than 100 New York City middle-schoolers rose from their beds with math on their minds. They were on their way to Columbia to compete in the biggest MathCounts Manhattan competition yet.

Algebra, geometry, probability, statistics—not what most people, particularly kids, have in mind for a Saturday morning.

“But they weren’t boring problems,” says Meena Boppana, a sixth-grader from the Dalton School. “They were harder problems than we get in school, and more fun.”

Like the other teams, Boppana’s team had met regularly throughout the year to pore over problems from previous competitions to ready themselves for the challenge.

The three winning teams—Hunter College High School, New York City Lab School and the Dalton School—will continue to the state MathCounts competition in Albany, N.Y., on March 18, where they will have a chance to advance to the national finals in Arlington, Va., in May.

“The competition was truly challenging

this year,” said Shiela Krilov, coach of the first-place Hunter College team. Her team has won in years past, but “with so many teams involved, this year it felt like a real victory,” she said.

Volunteers from the National Society of Engineers, National Society of Black Engineers and from Columbia’s School of Engineering and Applied Science (SEAS) were on hand to facilitate the event.

“The kids love being at Columbia,” said Terrance Cope, an administrator in Columbia’s math department, which provided the venue, staff support and refreshments required to make the event possible. “It’s a great pleasure working with them.”

According to Jeremy Edmunds, a SEAS student who helped coordinate the logistics, MathCounts Manhattan is now on the look-out for more volunteers. “This was the largest, most diverse and intense competition we’ve ever hosted,” he said, noting that this success has left the organization somewhat short-handed.

Edmunds stressed that volunteers are needed throughout the year to tutor students, fundraise and staff the competition, urging anyone interested to contact him at jse2101@columbia.edu.



Peggy Rand

With Help of CERC, Brooklyn Middle-Schoolers Sample Place-based Environmental Learning

Nearly 1,000 middle-schoolers from the Peter Rouget School (M.S. 88) in Brooklyn skipped their normal classes in mid-February to join their teachers for a week of projects that integrate various subjects under the study of ecology and the environment.

These “integrated projects weeks” (IPWs) are the work of the Center for Environmental Research and Conservation (CERC) at Columbia.

“Conservation biology provides a natural framework for this kind of integration,” explained CERC executive director Don Melnick. “It’s a field that addresses scientific aspects of ecology as well as cultural, socio-economic and health implications of the natural environment.”

Groups of 30 students each tackled projects such as “Fashion, Change and the Environment” (factors that influence what humans and animals wear), “Revolutionary Ideas” (engines of change in art, history and nature), “Create Your Own ‘Hood’” (the physical, social and economic elements of an ideal neighborhood) and “Buy Me, Buy Me, Gimme, Gimme!” (the relationship between consumption, industry and art).

These IPWs represent only one part of CERC’s work at M.S. 88, which will culminate in implementing an integrated, ecology-based curriculum throughout the school. The sixth-grade curriculum will roll out during spring semester this year, with grades seven and eight following suit over the next two years.

The curriculum requires teachers to work collaboratively to reinforce concepts and to stress the real-world relevance of what their students are learning in the classroom, Melnick said, adding that CERC has been working for over a year to prepare the administration and teachers for the changes. It completed a pilot training program with seven M.S. 88 teachers in 2005, culminating in a

“mini-IPW” of 60 students in June, which had some M.S. 88 students examining Brooklyn as an example of “island ecology”—courtesy of the Gowanus Canal.

The M.S. 88 partnership was made possible by a major grant from the Robin Hood Foundation. “The foundation is an ideal partner in this interdisciplinary endeavor,” said Melnick, “ironically because their primary mission has nothing to do with education.”

Their mission, he explained, is poverty prevention, and as statistics show that those with a high school diploma are much less likely to succumb to poverty than those without, the foundation favors programs that reduce dropout rates by engaging students who are at risk of leaving school.

“The CERC/M.S. 88 project is such an effort,” Melnick said. “Our joint initiative is poised to have a major impact on the lives of nearly 1,000 middle-school students.”

CERC is a consortium of Columbia University, the American Museum of Natural History, the New York Botanical Garden, Wildlife Conservation Society and Wildlife Trust. It is the principal ecology and biodiversity unit of Columbia’s Earth Institute, with the mission of building environmental leadership and solving complex conservation problems.

For more information on CERC and its research and training initiatives, go to: www.cerc.columbia.edu/index2.btm



Brooklyn’s Gowanus Canal, the site of an early CERC-led M.S. 88 project.

Remembered

SIPA Advisor Edward Graham Jefferson

Edward Graham Jefferson, 84, former chair of the advisory board for the School of International and Public Affairs (SIPA), died Feb. 9 at his Wilmington, Del., residence. In 1986 he retired as chairman and chief executive officer of the DuPont Company, after having steered the chemical giant into life sciences. Born in London, England, he was a graduate of Kings College, University of London, with honors in chemistry, and received a doctoral degree from that college.

In addition to his service to Columbia, Jefferson was active in several other university communities. He held a fellowship at Cornell and was a lecturer at Massachusetts Institute of Technology.

Chemical Engineer Helmut Schulz

Helmut (“Hap”) Schulz, chemical engineer, academician, industry leader and winner of the prestigious Egleston Medal for Distinguished Engineering Achievement, died

on Jan. 28 at the age of 93. Despite being blinded in an industrial accident while working at Union Carbide in 1940, Schulz pursued a Ph.D. in chemical engineering at Columbia, which was awarded in 1942. He continued his career at Union Carbide for more than three decades, rising to become managing director of the company’s research center in Brussels. He also held senior appointments in the U.S. Departments of Defense and Education.

Much of Schulz’s work was ahead of its time. In 1940, he proposed a process for separating uranium isotopes by centrifugation—a contribution that was acknowledged 44 years later, when it became the basis for designing a more energy-efficient uranium enrichment process.

In technical papers written in 1945 and 1947, Schulz described original concepts for maser/laser and laser catalysis, proposing the use of monochromatic electromagnetic radiation for catalyzing chemical reactions. He persuaded Union Carbide to support research on these concepts by funding Charles H. Townes, whose work led to the invention of the laser and a Nobel prize.

In 1969, after retiring from Union Carbide at age 57, Schulz returned to Columbia, where he began to develop waste-to-energy processes as a senior research scientist and adjunct professor of chemical engineering.

His work at Union Carbide and Columbia led to 64 foreign and U.S. patents, covering a wide range of chemical engineering-based technology.

Schulz retired from Columbia in 1983 and continued to develop commercial applications of refuse-to-energy technology emphasizing protection of environmental quality.

Biologist Basil V. Worgul

Basil Worgul, 58, a professor of radiation biology at the Columbia College of Physicians and Surgeons who studied the causes of cataracts, died of a heart attack on Jan. 19 at his home in Edgewater, N.J.

Worgul did not live to see the 20th anniversary of Chernobyl, which had shaped his major life-work. Following the world’s worst nuclear disaster, on April 1, 1986, he became the American director of the

Ukrainian/American Chernobyl Ocular Study. Joined by Columbia colleague Norman J. Kleinman, he conducted a long-term international study of 12,000 workers who were involved in cleaning up after the meltdown of the Chernobyl reactor. Their findings showed that even very low amounts of radiation can cause cataracts.

In 2003, Worgul told the Radiological Society of North America, “No radiation dose is completely safe.”

In addition to radiation, Worgul researched other eye problems—congenital as well as genetic causes. With the aid of a Shared Instrumentation Grant from the National Institutes of Health, Worgul established the Automated Micro-Imaging Facility (AMIF) in Columbia’s Department of Ophthalmology. In addition, he set up a separate Bio-Microscopy Imaging Facility. In 1990, he became director of Columbia’s Eye Radiation and Environmental Research Laboratory, which he had helped to establish in 1984.

Worgul joined the Columbia faculty as assistant professor of radiation in 1974, moving up to full professor in 1979.

Local Restaurateur Frank Okamura

Frank Okamura, an international bonsai expert associated with Brooklyn Botanic Garden, died Jan. 9 at his home in Manhattan. He was 94.

Okamura enjoyed a close relationship with Columbia University through his native Japanese food. In 1958, he and his wife Toshimi, opened one of the first Japanese restaurants in Manhattan, called “Aki,” near the Morningside Heights campus. Mrs. Okamura prepared meals for Columbia’s homesick Japanese exchange students. Other frequent patrons were American students who wanted to sample Japanese food.

Two Columbia College alumnae, Mitch Hall and Joe Kunkel, writing about their freshman year (1960-1961) experiences on a umass.edu wiki, recalled Aki as the “Japanese restaurant where we were introduced to eating with chopsticks, experiencing the zing of wasabi, listening to recorded Japanese music with koto and shakuhachi [Japanese lute], and enjoying the aesthetics of the tiny plates of sushi and sizzling tempura.”