The official opening of Montclair State University’s Bristol-Myers Squibb Center for Science Teaching and Learning was held at the Center’s Blanton Hall location on Monday, October 24. The ceremony formally acknowledged a $500,000 five-year grant from Bristol-Myers Squibb to MSU. This public-private partnership funded the construction of a facility designed to improve the way teachers prepare their students in mathematics and science.

Hosting the opening ceremonies were MSU President Dr. Susan A. Cole, and Dr. S. Anders Hedberg, Director of Corporate Philanthropy, Bristol-Myers Squibb Foundation. A ribbon-cutting ceremony was followed by a reception and a tour of the facility. Sally Shuler, Executive Director of the National Science Resources Center of Washington, D.C., a nationally recognized leader in the development of inquiry-based K-12 science curricula and professional development programs, led an interactive session on national science education needs.

The five-room Center houses PRISM (Professional Resources in Science and Mathematics), an organization designed to improve teacher preparation in mathematics and science. The Center has attractive and versatile furnishings, an inviting design, communications equipment, and eye-catching artwork that combine to send the message that science and mathematics are exciting areas of study. In the recent academic year, PRISM provided professional development in inquiry-based approaches to more than 700 teachers in 49 school districts.

### PRISM Partners with National Science Resources Center (NSRC)

The National Science Resources Center of the Smithsonian Institute is a major partner of PRISM in support of educational reform in New Jersey districts. PRISM will send K-12 educators to the Smithsonian academies next summer in Washington, D.C., and host NSRC inquiry-based workshops for educational leaders at the Bristol-Myers Squibb Center at MSU.
In the Classroom
This is the first in a series of articles on CUSP Outreach
Team Members in classrooms of partner
School districts

Featuring Karin Rupp
By Timothy Macht

We’d scheduled to meet at 8 am. I was to be at the corner across from my house, the cream colored Toyota would arrive and off we’d go. At 7:55 the telephone rang. “Timothy? It’s Karin. I’m on a side street, and why don’t I just pick you up?” Minutes later I sat across from Karin Rupp, shook hands, buckled in, and took off for this math outreach team member’s visit to Union School in Rutherford.

Karin’s style and manner lend themselves to colors. She wore a bright red jacket and multi-colored scarf. Her opal jewelry was made with vibrant stones. Later I discovered the elegant rings and earrings were made by her daughter Jodie a jewelry designer in Maine.

I asked Karin about her job with CUSP. She told me she’s presented workshops in small corners of libraries and large multi-media rooms with big screen TVs and stadium seating. One frustrating aspect of her job is that too often, when trying to establish an initial contact outlining CUSP services she can’t get folks to return her phone calls. “Good golly Molly! We’re offering you something for free, get back to me!” Already I can see that Karin is a good storyteller. She can make an everyday incident enjoyable when retold.

As we approach Rutherford she lets me know this will be a fifth grade lesson on polygons. When she asks me if I’m familiar with polygons, I mumble something about math not being my favorite subject and no I guess I’m not familiar with them. By now we’ve parked in front of the school, and I feel I need to elaborate on my lack of polygon knowledge. “I probably had poor math teachers who couldn’t keep me engaged.”

We walk into the school’s office to check in, and the first thing I notice is a poster of Albert Einstein with this quote, “Do not worry about your difficulties in mathematics. I can assure you that mine are greater.” Karin gives me a handout for the fifth grade class. Did it make sense to me, someone who is not knowledgeable about polygons? Yes, it did.

On this day Karin would teach a demonstration lesson while teachers observe. Other days she observes teachers and offers coaching tips, or she and the teachers collaborate to co-teach a lesson. Karin passed out the manipulatives needed for today’s lesson. “I’m passing out elastic bands, and what’s the thing we don’t do with them?” she asks. “Fling them,” a student answers. “Yes” Karin responds. Then she hands out geo boards, straws and pipe cleaners. Karin begins to read The Greedy Triangle, by Marilyn Burns. As she reads, she moves among the students engaging them with eye contact and entertaining them as she changes voices for the story’s different characters. I am struck by the amount of energy and enthusiasm it takes to be a teacher. When the theatre is a classroom, the curtain doesn’t come down after just two hours … and you have to spend your intermission with the audience.

In the story a triangle always dissatisfied with his shape visits a shape shifter to morph into many different polygons until he eventually becomes a circle. As the triangle shifts into pentagons and hexagons, Karin pauses and the students manipulate their straws and pipe cleaners or use elastic bands on the peg boards to mimic these shapes. She calls students by name to show the shapes they’ve made, and she holds up the creations for the class to see.

When she closes the book she holds up a small soccer ball. “If you look at the shapes on a soccer ball what do you see?” A boy says “It’s pentagons and hexagons.” Karin passes the ball around to show that the boy is right. With the book in one hand and the soccer ball in the other she asks, “What did you learn?” A student answers that the book showed you can start with a triangle and go to a quadrilateral, a pentagon, and up to a many-sided polygon which is a circle. Karin then hoisted up the book and asked, “What’s the moral of the story?” A young girl says, “It’s to be yourself.”

After class Karin mentioned that there were seven special education kids in the class. “Could you tell?” she asked me. “No, I had no idea.” The active learning approach kept all kids engaged. I asked if it made a difference if the students had read the book beforehand. “If they’ve heard the story before you can concentrate more on the math and teaching it.”

Driving back I compliment Karin on her energetic style and the rapport she created with the students. As the car accelerates, she smiles and says, “My troubles disappear when I’m in the classroom.”
African Field Experience For Teachers: Students and Wildlife

By Anna Mazzaro

When I was in elementary school, geography was one of my favorite subjects. Learning about other countries gave me the opportunity to “travel” without leaving school. Studying geography also gave me the opportunity to learn about the people, the culture, the flora and the fauna of far away countries that I was able to “visit” by reading books.

One of the places that fascinated me was Africa. Everything I learned in school about this far away continent captivated me. I never thought that I would have the opportunity to travel there. This summer, however, after many years, I visited the African continent.

A group of 22 educators from New Jersey, Ohio, and Texas packed their bags and took off for 13 days in Kenya and Tanzania. The first stop was Nairobi, Kenya on the African east coast just below the equator. This city of 2 million has grown around the Nairobi National Park, created in 1946, which is not fenced in, and wildlife can migrate along a corridor to the Rift Valley.

After Nairobi, we crowded into a small bus with our luggage and rode for more than eight hours over very bumpy, dusty roads. Even though this was not the most comfortable bus ride, the excitement generated by the stunning Kenyan landscape and up-close view of wild animals made this a great bus ride.

Our destination was several national parks in Tanzania, where we had close encounters with Blue Monkeys. These skillful monkeys are territorial in troops of 10 - 40 individuals. They are diurnal, more active in the morning and late afternoon. They feed on seeds, fruits, plants, herbs, and arthropods.

In Tarangire Park that we saw our first elephants. As a welcoming afternoon breeze blew in, we stopped close to a stream. A small herd of elephants approached for their afternoon bath. More than 30 elephants of different ages gathered. To me elephants are fascinating animals. They live in matriarchal herds; one of the oldest and largest females is always in charge of the group. They have very strong family ties. The unity of the family is very important and group members are constantly showing affection to each other. Moms and other females interacted freely by touching and caressing each other. Adolescents took mud baths, while babies made holes in the mud and practiced how to look for fresh water during the dry season.

The most significant and valuable experience to me was the visit to a public school in Tanzania. The school we visited houses 300 students studying mathematics, reading, writing, social studies, and science. These students walk long distances to get to school. No breakfast is served, but lunch is provided. They don’t have crayons or colored pencils. Teachers don’t reward them with stickers because they brought in their homework assignments. When I walked into the classrooms, I noticed that the rooms didn’t have bookshelves filled with books. There were no bulletin boards or decorations. No textbooks for the students no computers or VCR, no overhead projector. Materially, these students had very little. What I saw was a compelling desire to learn. Students view education and the opportunity to learn as a privilege. I saw in their eyes gratitude for this opportunity. During the visit to the school we spoke with the children who were happy to share their experiences and knowledge with our group. Proudly they shared their neatly kept notebooks with us. They liked being questioned about different topics and enjoyed answering them.

I always thought the excitement of a trip to Africa was going to be about seeing wild animals in their natural environment. I was both surprised and pleased to find that far more important to me was the interaction with the people. The visit to the school was an unforgettable event. Despite all the material deficiencies, students were knowledgeable, respectful, and well behaved. The teachers seemed proud to be able to provide students with the opportunity to become better citizens through education, not through material possessions. I learned a valuable lesson from this. Now when I walk into a classroom, I’m thankful for the materials and resources available to help me teach. When I feel the desire to complain, I remember all those faces I saw, eager to learn.
PRISM Receives 2005 Scientific Literacy Achievement Award

Bristol-Myers Squibb Honors Partners

Since 1992 Bristol-Myers Squibb has sponsored philanthropic programs designed to improve science education in New Jersey. Montclair State University's PRISM program was one of three organizations honored by Bristol-Myers Squibb at a gala awards dinner. The New Jersey Association for Biomedical Research hosted the dinner, which also honored Rider University’s CONNECT-ED program and the New Jersey Center for Life Science’s Science to Go Program.

PRISM has played a key role in the professional development of practicing teachers through innovative, inquiry-centered and research-based methodology. Operating in partnership with Bristol-Myers Squibb, the National Science Resource Center (NSRC), and the Smithsonian Institute, Montclair State and Rider Universities serve to increase science literacy throughout the state.

New Jersey Technology Council Honors MSU for Leadership

The Rainforest Connection Highlighted As Model Education Program

Montclair State University President Susan Cole accepted the NJTC trophy for the second year. Jacalyn Willis, Director of PRISM, was honored for creation of The Rainforest Connection at a black-tie dinner hosted by the NJTC on November 4. The MSU Instructional Technology managers (Ed Chapel, Patty Kahn, and John O’Brien), Verizon’s ACCESS-NJ video portal managers (Eric Kulmala and Mark Bocchieri), and the director of technology for Passaic Valley Regional High School (Mathew Conforth) were praised for their roles in developing The Rainforest Connection and other technology-rich educational programs. Thirteen other awards were presented to corporations in New Jersey recognized for their leadership in technology. John Martinson, venture capitalist and educational visionary, founded the NJTC 12 years ago to nurture the growth of technology industries in NJ. The Martinson Family Foundation supports innovative PRISM programs, including The Rainforest Connection video conference chats between scientists in Panama and students in New Jersey and beyond. PRISM videoconference programs are expanding this year to a variety of locations and topics in scientific research.

Weekly Workshops in Math, Science and District Planning Processes

The Bristol-Myers Squibb Center hosts professional development for K-12 teachers and school administrators.

Summer Institutes 2006

Math & Science

10 Days: July 10 – 21
8:30 am - 2:00 pm
Reserve for 55 pd hrs.
$1000 stipends to first 55
CUSP teachers who enroll.
Call 973-655-7753.

The basic focus of the Institutes is constructivist approaches to teaching, using inquiry-based and problem-solving activities. Help us fulfill your needs by telling us what topics are of special interest to you. When you enroll, we will review your feedback and shape this year’s Summer Institute offerings. Some sample topics planned are: computer literacy for teachers, planning outdoor science programs, earth science, ocean science, and ecology lessons.

PRISM Staff

http://prism.montclair.edu
prism@mail.montclair.edu

From l to r: back row: Nancy Schultz, Rick McCollough, Anna Mazzaro, Adam Roth, front row: Jackie Willis, Helen Earles, Colette Killian

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