

PPPL Employees Barnes, Murphy, and Yager Receive PUWO Awards

Recognized for making a positive difference in Princeton University's "world of work," three PPPL women recently received the Princeton University Women's Organization (PUWO) Certificate of Accomplishment.

The certificates were presented to Dori Barnes, Susan Murphy, and Lynne Yager, who were among 43 University students, staff, administrators, and faculty members receiving the citations during the PUWO Annual Meeting on May 26.

All of the awardees were nominated by a colleague for "creating a

"It's about as high an honor possible for someone to say that you make a difference in others' lives."

— Harold Shapiro —

work environment that enriches the lives of those around them."

PPPL Director Ronald Davidson said, "This is well-deserved recognition for the outstanding accomplishments and leadership provided by the three recipients from PPPL."

Barnes, Head of the Computer Systems Division at PPPL, was cited for her "leadership and for the advancement opportunities she provides for women."

Murphy, who Heads the Office of Certification and Training at PPPL, was recognized for the "positive effects of her guidance and leadership."

Yager, an administrator in the Lab's Cost and Schedule Control Division, was chosen for her "leadership efforts to connect and involve PPPL employees with colleagues on Main Campus," enabling more than sixty PPPL'ers to participate in "Take Our Daughters to Work Day" this year.

Princeton University President Harold Shapiro, who addressed the honorees during the awards ceremony, said, "It's about as high an honor possible for someone to say that you make a difference in others' lives." Shapiro also thanked those who took the time to nominate their colleagues for the award.

Following the awards presentation, Steve Iverson said of PPPL's award recipients, "These women all made outstanding contributions to the Lab. They are leaders and excellent role models." Iverson is the Head of the Office of Human Resources and Administration at PPPL. ●



Photo by Dietmar Krause

PPPL women Lynne Yager, Susan Murphy, and Dori Barnes, left to right, were recently recognized by the PUWO with Certificates of Accomplishment.

Lab to Host Fractals, Chaos, and Dynamics Symposium II

Opportunities for PPPL Researchers to be Presenters

Sam Isaacson can't wait for the fractals symposium to get off the ground at PPPL this summer.

The 12-year-old Highland Park resident sat in the front section last summer among an audience of teachers during the Laboratory's first Fractals, Chaos, and Dynamics Symposium.

This year, about 100—including Sam—are expected to attend the "Fractals, Chaos and Dynamics Symposium II" scheduled for July 5-9. Fractals are the geometry of highly irregular shapes, chaos is the study of seemingly random events, and dynamics is the investigation of changing events.

New Mathematics

The symposium is geared toward middle and high school teachers and college and university professors. Said Science Education Program Head Diane Carroll, "Teachers are especially interested in finding out how this new mathematics is being used in scientific work."

Organizers at PPPL have put out a call for help to Laboratory staff who would like to assist in the upcoming summer course. "I'd like to invite some of the researchers here who are doing work in the area of fractals, chaos, and dynamics to join our presenters. We have many opportunities, both in the afternoons and evenings, for small group sessions. If anyone is interested in giving a 20-minute or 30-minute presentation, come and see me. I think it'd be great to have some of our plasma physics people involved," said Sharon Sherman, whose extension is 2114.



Fractals enthusiast Sam Isaacson, who looks forward to this year's symposium, sat near the front at last year's lectures on fractals, chaos, and dynamics.

Photo by Diane Carroll

Acclaimed Mathematicians

This year's lineup of presenters features a group of internationally acclaimed mathematical researchers and mathematics educators. Heinz-Otto Peitgen, who Heads the Institute for Dynamical Systems, University of Bremen, will lead the symposium as he did last year. Other presenters slated are Richard Voss, of Yale University; Dietmar Saupe, of the University of Freiburg; Lee Yunker, of the West Chicago Community High School; Evan Maletsky, of Montclair State College; Elizabeth Marquez of North Brunswick Township High School; Terry Perciante of Wheaton College; Mary Ann Connors, of the University of Massachusetts; Hartmut Jurgens, of the University of Bremen; and Eamonn Kelly, of Rutgers University.

Full, Intensive Week

Sherman described the first symposium, which turned into a 50-hour course plus optional evening activities, as "one full, very intensive week."

Sherman said topics discussed included fractals from multiple perspectives, chaos from multiple perspectives, the practical fractal, and classroom applications of fractals, chaos, and dynamics tied to the middle school and high school mathematics and science curricula.

"It was one of the most beneficial experiences that I think a lot of people had," she added. "It was taught by some of the most accomplished mathematicians and math educators in the world."

The upcoming symposium is open to anyone who attended PPPL's first as well as to those who attended the Fermilab Fractals Symposium or the Rutgers Discrete Math Institute.

"I'd like to invite some of the researchers here who are doing work in the area of fractals, chaos, and dynamics to join our presenters."

— Sharon Sherman —

In addition to Symposium II, PPPL will host "Fractals, Chaos, and Dynamics Symposium I" at the Laboratory during the afternoons of July 5-8. It will include many of the same presenters. Applications are available from Sharon Sherman in B-136, C-Site, and in the LOB lobby.

"We had so much success last year," said Sherman, noting that 120 participants attended, including a couple of PPPL researchers

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Symposium II

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and one very enthusiastic youngster.

"When Sam's father saw the fractals announcement last year, he called and asked if Sam could come," recalled Sherman. "Sam sat right in front. He answered the questions before the lecturer could finish asking them. Sam has read everything he could find on fractals.

He seemed to totally and thoroughly enjoy the symposium." She noted that Peitgen was so impressed with Sam that he arranged for an all-expense paid trip to Germany for the youngster and his father.

With the trip behind him, the young fractals enthusiast is now looking forward to returning to Princeton University for Part II of the fractals symposium.

"It's all he wants to do this summer," said Isaacson of his son.

"Teachers are especially interested in finding out how this new mathematics is being used in scientific work."

— Diane Carroll —

Science on Saturday Drew Big Crowds

Hundreds of people—curious about how Arnold Schwarzenegger's nemesis in "Terminator 2" could melt into a silvery pool and emerge as a fierce new form—flocked to PPPL. They also came to find out how animals develop their shapes and to hear a Nobel Prize winner discuss the research that led to his winning of the coveted award.

PPPL became the source of explanation by hosting the Science on Saturday series this winter.

Larry Lagin, who has been one of the organizers of the program at



Photo by Dietmar Krause

Nobel Prize winner Russell Hulse (right) answers questions after his Science on Saturday lecture. In the background, to his left, is Norton Bretz, one of the organizers of this year's series.

opportunity for children like Charlie and others," said Mr. Parry, describing the series as a "tremendous inspiration" for youngsters. "This is an opportunity for them to come and listen to and ask questions of the top scientific brains in the world. This has opened up a whole new spectrum to kids."

Lagin noted that a scientific background is not necessary to understand the lectures, which drew folks from 8 to 86 years old.

"The main purpose of the program is to stimulate young minds," said Lagin. "But since the talks are geared to the high school level, they're crystallized in a sense. They're easily understandable by most people."

Popular Topics

Lagin said the organizers of the ten-session series have tried to feature more popular topics in the last few years, including "The Practical Fractal," "What Killed The Dinosaurs?" and "Computer Graphics in 'Terminator 2' and Other Films," the last of which drew one of the largest crowds.

"More than 500 people interested in how computer graphics cre-



Kirk Parry (in the dark sweater) brought his son, Charlie (to the left of Parry), to Science on Saturday and stayed to listen to the lectures. Photo by Dietmar Krause

PPPL for the past four years, said the 10-year-old series drew about 350 people to each two-hour morning session. Each session was free and open to the public and included a lecture and a question-and-answer period. Sprinkled among the high school students was a contingent of retirees, as well as teachers, parents, and siblings who accompany them.

Kirk Parry and his 16-year-old son, Charlie, drove from their Blue Bell, Pennsylvania, home to PPPL regularly on Saturdays to participate in the series.

Tremendous Opportunity

"We are so excited about the program. It's such a tremendous

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Science on Saturday

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ate special effects in popular movies attended the lecture," said Lagin. He noted that the crowd flowed over from the auditorium into the cafeteria and lobby, where the presentation could be seen on closed circuit TV. This lecture was given by Princeton University Professor Patrick Hanrahan, who had written much of the software used in "Terminator 2."

Lagin said the Lab does not repeat a topic over a four-year-period since there are many students who come back year after year. The subjects are selected by the speakers, who organizers begin lining up in early summer to fill the winter bill.

"People should be enjoying science just as they do art and sports and music."

— Russell Hulse —

"The primary focus is not on the topic but the speaker. We're looking for a speaker who can relate to high school kids," he said, noting that all speakers volunteer their time.

One of the presenters this year was Russell Hulse, a PPPL physicist who described his persistence and "compulsiveness" while doing the research that led to his winning the 1993 Nobel Prize in Physics.

"I'm glad to see the interest that was evident in the turnout and by seeing all the parents who had come along. I had some people who waited a long while in line to ask questions. I find that very encouraging because many people have become so alienated from science in our society," said Hulse. "People should be enjoying science just as they do art and sports and music."

Scientists are Real People

Added Lagin, "Kids hear too much that U.S. science is falling behind and they need to be reassured that it's not. The U.S. has the best scientists and the youngsters can be future scientists, providing they get good role models. We also like to show them that scientists are real people with hobbies and families."

Norton Bretz, a PPPL physicist who has been one of the organizers of the series for the past two years, said, "We really appreciate the efforts of speakers from Princeton University, Rutgers University, AT&T, and other area research and technical organizations who gave up their Saturdays to contribute their excellent lectures."

Organizers Bretz and Lagin thanked the Lab for hosting the program, as well as everyone at PPPL who helped with all the details. So many assisted in lining up speakers, getting the word out, and setting up refreshments.

The organizers offered special thanks to Pat Buggs, Chris Ritter and Rebecca Sesay, who arrived by 7 a.m. each morning of the series to set up coffee, juice, and 50 dozen donuts for the attendees.

Lagin and Bretz said they are continually on the lookout for new presenters. Said Bretz, "We are always open to suggestions for future speakers. If anyone has heard a good talk or knows someone who would make a dynamic presentation, let us know." ●

NBHS Wins NJ Regional Competition



PPPL hosted 16 teams of students in the New Jersey Regional Competition of the National Science Bowl™ at the Lab earlier this year. North Brunswick High School won the competition. In April, PPPL software engineer Bill Davis, organizer of the event, took the team to Washington, D.C. to compete in the National Science Bowl™. Team members, from left, are Coach Katrina Kehayas, Captain John Bates, Yuan Wang, Marcin Imielinski, Mike Hrymoc, and Puneet Masaun. Photo by Dietmar Krause

Science Education Summer '94 Calendar

Summer means vacation to some, but summer is the busiest time for PPPL Science Education, with 10 programs (listed below) underway. For more information, contact the Science Education Office at extension 2106.

Undergraduate Research Opportunities Eight to ten weeks between June 13 and August 19

Princeton University students and previous Summer Science Award Program participants work with PPPL scientists and engineers in such areas as data analysis, surface science, materials testing, applied physics, and engineering.

National Undergraduate Fellowship Program in Plasma Physics and Fusion Engineering June 13 to August 19

The Department-of-Energy-sponsored National Undergraduate Fellowship Program offers outstanding undergraduates an opportunity to participate in fusion-energy-related projects and research. During the first week (June 13 to 17), students take an introductory course in plasma physics at PPPL. Starting June 20, each student takes part in nine weeks of fusion research in areas including theoretical, computational and applied physics, materials science, and electrical and mechanical engineering at one of the 13 participating universities and national laboratories.

Historically Black Colleges and Universities Summer Fellowship Program June 13 to August 26

Students from Historically Black Colleges and Universities participate in fusion research projects at PPPL this summer.

Teacher Research Associates Program—TRAC July 5 to August 26

Eleven high school teachers of science-related subjects work with PPPL scientists and engineers to gain hands-on experience doing scientific research in fusion-related areas. Seminars and discussion groups are conducted to assist TRAC teachers in developing strategies that use their research experience to enhance classroom teaching. Two follow-up workshops are conducted during the school year.

Summer Science Awards for High School Students July 5 to August 26

Fifteen outstanding high school juniors and seniors who intend to major in science-related areas in college work with PPPL scientists and engineers in such areas as data analysis, materials testing, applied physics, and engineering.

National Geographic Society Kids Network Institute July 11 to 15

Twenty-six teachers of grades 3 to 7 learn how to use the National Geographic Society Kids Network Program, an innovative computer and telecommunications-based, hands-on science curriculum in which student-scientists investigate new ideas and exchange information with students around the world on the topic, "What's in Our Water?"

Symposium on Fractals, Chaos, and Dynamics—A Hands-On Experience July 5 to 9

Teachers of middle school, high school, and college increase both their content knowledge and their ability to teach concepts related to fractals, chaos, and dynamics. Graphing calculator experiments and computer activities provide teachers with firsthand knowledge of the field. Sessions conducted by some of the world's leading researchers in the field.

Summer Teacher Enhancement Activities in Math and Science July 18 to 22 (Grades K to 2) August 1 to 5 (Grades 3 to 5)

A week-long institute for teachers consists of activities based on the Great Explorations in Math and Science (GEMS) Program developed at the Lawrence Hall of Science of the University of California at Berkeley. The team of presenters is led by Dr. Sharon Sherman of PPPL.

Secondary Mathematics Institute July 25 to 29

A week-long institute for teachers of grades 6 to 12 is a mathematics encounter keyed to the National Council of Teachers of Mathematics (NCTM) Standards and includes hands-on activities with manipulatives, problem solving, calculators, critical thinking, and writing. The presenter is Muriel Thatcher of Math Encounters.

Middle School Science Institute July 25 to 29

A week-long institute for teachers of grades 5 to 8 is based on the Chemical Education for Public Understanding Program (CEPUP) curriculum, offering activities and simulations that integrate science and mathematics. The team of presenters is led by Debbie McBride and Maryann Varhula of the Trenton Public Schools.

Former PPPL Co-op Wins Award

Lauded for abilities while working with PPPL's User Support Group

Former co-op student Timothy Riotto knew how to solve computer problems. That, along with his conscientiousness and ability to work well with people while employed with the Lab's User Support Group, earned him an Outstanding Co-operative Education Senior for 1994 Award from Drexel University.

The news came as little surprise to Harry Towner nor to Virginia Zelenak. Towner is the Lab's Distributed Computing Services Head and Zelenak coordinates PPPL's User Support Group. In their joint nomination of Riotto for the award, they described him as "invaluable

to the success of the User Support Group."

"His ability to diagnose computer problems and explore new and inventive ways of solving them was exemplary," wrote Towner and Zelenak in their nomination letter. They also noted his courteousness, politeness, and dependability.

Zelenak said Riotto helped users with installations of software and with configuring their Macintosh and/or personal computers. "Basically, he did what we do. Tim was able to handle all of the duties required of the User Support staff," she said.

Riotto, who graduated this spring from Drexel with a degree in mathematics, had served as a co-op student during three terms with the User Support Group at PPPL. The Co-operative Education and Career Services program at Drexel gives students an opportunity to gain working experience and earn money to pay for tuition. Students are employed with various institutions and businesses for six-month terms.

"It gives them valuable experience and shows them what is expected of people out in the real

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From left are Drexel's Dean of Co-op and Career Services Gary L. Hamme, Timothy Riotto, former PPPL Co-op student and the recipient of Drexel's "Outstanding Co-operative Senior for 1994 Award," and PPPL'ers Harry Towner and Virginia Zelenak, who nominated Riotto for the award.

Riotto

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world," said Towner, noting that his division and others at the Lab have employed co-op students.

Riotto was one of 13 selected as Outstanding Co-operative Educa-

tion Seniors out of 90 nominations. During an awards presentation ceremony in April at Drexel, he received a clock in lucite. In addition, PPPL received an Outstanding Co-operative Education Partner plaque, which recognized the Lab's "demonstrated efforts to create a sup-

portive employment environment allowing exemplary student performance."

This story was suggested by Scott Sweeney in Human Resources. Do you know of a story that needs telling? If so, call Ex. 2757. ●

Laboratory Garners 22 Safety Awards

In recognition of its achievement in the prevention of occupational injuries during 1993, PPPL received twenty-two safety awards from the New Jersey State Industrial Safety Committee.

The New Jersey Department of Labor presented a total of twenty "Citation of Merit" awards to individual departments at the Lab, a "Recognition Award" to all PPPL employees, and a special award—a "Citation of Merit and Workplace Standards"—to the Environmental Safety and Health Division (ES&H).

The citation to ES&H was for having worked in excess of 200,000 hours without a lost time accident. All the citations were given on April 25 during the State Industrial Safety Committee's Annual Awards Night.

The following Laboratory departments received "Citations of Merit": The Administration Services Division, the Budget Office, the Environmental Restoration and Waste Management Division, the Certification and Training Division, the Computer Systems Division, the Cost and Schedule Control

Division, the TFTR Diagnostics Division, the Emergency Preparedness Division, the Engineering Analysis Division, the Environmental Safety and Health Division, the Human Resources Division, the Information Resource Management Division, the Information Services Division, the Occupational Medicine Office, the Office of the Associate Director—Academic Affairs, the Physics Program, the Procurement Division, the Science Education Division, the TFTR Project, and the TPX Project.

PPPL employees accepted awards at the NJ State Industrial Safety Committee's Annual Awards Night. From left to right are John Spitzer, Larry Guttadora, a representative of the New Jersey State Industrial Safety Committee, Joe Bartolick, Steve Scholey, Mac Hays, Sue Pontani, and Sue Hill.



TRANSITIONS

Retirements

Halsey Allen, an Engineer on the TFTR Project, retired on October 31. Allen had been at the Lab for 17 years.

Clarence (Bud) Bosley, a Technical Assistant in the Facilities Division, retired on October 31. He had been at the Lab since 1958.

Donald Carter, a Technical Assistant in the Engineering Department, retired on January 1. He had been at the Lab for 38 years.

Warren Class, a Technical Associate in the Engineering Department, retired on October 31. He began working at PPPL in 1957.

Harry Creacy, a Communications Officer in the Emergency Services Unit, retired on October 31 after 29 years of service at the Lab.

George Cutsogeorge, an Engineer on the TFTR Project, retired on May 1. Cutsogeorge had been at the Lab for 17 years.

George DePagnier, a Technician in the Engineering Department, retired on October 31. He had been at the Lab for 39 years.

Tom Devine, a Technical Assistant in the Engineering Department, retired on October 31 after 36 years of service.

Robert Fleming, a Principal Engineer in the Engineering Division, retired on May 1 after 18 years of service.

Roger Gould, a Manager in the Procurement Division, retired on December 4. He came to PPPL in 1975.

Harry P. Howard, a Division Head in the Facilities Engineering Division, retired on May 1 after 11 years of service.

Robert Kneeshaw, a Technician in the Engineering Division, retired on March 28. He came to the Lab in 1954.

Richard LaBaw, a Technical Associate in the Engineering Department, retired on October 31. He had been at the Lab since 1976.

Sylvester Luyber, a Technical Assistant in the Engineering Department, retired on January 1 after 33 years of service.

Robert Majeski, a Technical Associate in the Engineering Department, retired on October 31. He had been at PPPL since 1958.

Alex Melendez, a Technical Assistant in the Facilities Department, retired on October 31 after 10 years of service.

Madeline M. Berkuta Michalowski retired from the Lab as a Technician in the Electronics Division on May 1. She had been at the Lab for 28 years.

Marion Mincarelli, a Data Base Administrator in the Cost and Scheduling Control Division, retired on October 31 after 16 years of service at the Lab.

Robert Motley, a Physicist in the Research Department, retired on August 31. He had been at the Lab since 1957.

Don Muschal, a Technical Associate in the Engineering Division, retired on October 31 after 37 years of service.

Bill Osborne, an Administrator in the QA/QC Division, retired on May 1 after 18 years of service.

Milt Pelovitz, an Engineer on the TPX Project, retired on February 28. He had been at PPPL since 1958.

Matthew Powell, a Janitor in the Facilities Division, retired on October 31 after 20 years of service at the Lab.

Herb Puckett, a Technical Assistant in the Engineering Division, retired on April 1 after 16 years of service.

Earl Shaeffer, a Technical Assistant in the Engineering Department, retired on October 31. He had been at the Lab since 1967.

Robert Shoemaker, a Technical Assistant in the Engineering Department, retired on October 31. He had been at PPPL for 33 years.

Dick Terhune, a Technical Associate in the Facilities Division, retired on May 1. He came to the Lab in 1962.

Daniel Zydorski, a Technical Associate in the Engineering Department, retired on October 31. He had been at the Lab since 1955.

HOTLINE

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