International leader

Department chair named president of soil science group

Donald Sparks, Distinguished Professor of Plant and Soil Sciences and department chairperson of plant and soil sciences in the College of Agriculture and Natural Resources, has been named the first president of the International Union of Soil Science (IUSS) from the United States in more than 40 years.

Beginning in 2002, Sparks will serve a four-year term as president of the international organization, which has 40,000 members in more than 120 countries. The IUSS promotes interaction among soil scientists and works to advance the research and solutions of international soil science problems.

"I think it's really a great time to be a soil scientist," Sparks said. "There are so many interesting things to work on. The recognition and importance of the field have never been greater because of all the environmental and food production issues."

According to John Nye, dean of the College of Agriculture and Natural Resources, Sparks' presidency should bring increased exposure to UD. "Don is one of the premiere soil scientists in the world," Nye said. "This just adds to those credentials. I think it will be helpful in attracting really top graduate students to the college and to his program."

Donald Sparks

In addition, near the end of his presidency, Sparks said he expects to bring further attention to UD when he helps organize and preside over the IUSS World Congress of Soil Science, scheduled in July 2006 in Philadelphia.

"For me, it brings further recognition to the program," he said. "We have a very strong soil science program. Certainly, the fact that the meeting will be in Philadelphia will bring a lot of recognition to not only the University of Delaware, but to the region."

Sparks will assume the presidency after the IUSS world congress in Bangkok, Thailand, in August 2002. His agenda will focus on administrative and outreach activities. Sparks said he will be addressing organizational issues as well as standard budgetary demands. Sparks also said he hopes to increase communication and activity between soil scientists and scientists in other fields to get as much member involvement as possible.

Educational and public relations activities also will be key, Sparks added, specifically to try to increase global awareness of soil issues, such as deforestation, soil degradation, soil toxicity and development.

"In particular, we want to educate young people about soil science," he said. "My feeling has always been that the average person on the street can relate to the quality of the water; they can relate to the quality of the air; but when you talk about soil quality, I just don't think they think about it."

The Internet, Sparks said, will be an important part of this outreach effort. He said he also hopes to encourage and facilitate the dissemination of useful soil information to countries with soil problems, especially in the developing world. "That would be a tremendous service to these countries and agricultural people," he said. For example, he said that many areas are "taking some of our best land and building on it. Are we going to have soil to grow crops?"

Sparks said he also will be heavily involved with educating members of agencies in the U.S. government, visiting with the heads of agencies such as the Department of Energy, Environmental Protection Agency and National Science Foundation.

"There are just a lot of important issues we need to be major players in," he said. "We have things to bring. We need to be at the table." UD

–Christopher Lepine

High-performance Samson supercluster computer installed

The University of Delaware has taken a quantum leap into supercomputing with installation of the world's largest Advanced Micro Devices (AMD) Athlon supercluster. The supercluster features 128 processors connected by a Dolphin Interconnect Solutions high performance network and designed and assembled by the California-based RackSaver Corp.

The supercluster, which has been named Samson, is expected to crack the top 200 among the world's fastest and most powerful supercomputers, making it one of the most powerful, nongovernmental computers in the region.

In addition, the supercluster structure allows Samson to be built at a 10th of the cost of a traditional supercomputer.

"Cluster computing is a relatively new idea in supercomputing, and it is taking the world by storm," according to William Matthaeus, a professor in the Bartol Research Institute in the College of Arts and Science. Matthaeus led a team that won National Science Foundation funding for the project.

"The new parallel cluster computer will solidify the University of Delaware's position as a leader in new technology,

KATHY FLICKINGER

Samson the supercluster is expected to crack the top 200 among the world's fastest and most powerful supercomputers.

providing important computing power for UD researchers and students in physics, engineering and computer sciences," Provost Mel Schiavelli said. "It will provide an unparalleled learning experience for all concerned and fits well with the University's commitment to teaching, research and technology.

"The University recognizes the value of such cluster supercomputers, which provide exceptional computational power and speed, and is proud to stand at the leading edge of this emerging technology," he added.

"The University is grateful for the support of the National Science Foundation, AMD, Dolphin Interconnect and RackSaver in this endeavor," Schiavelli said.

The supercomputer will be benchmarked using international standards. Matthaeus said it will be the largest Athlon supercluster and will likely rank among the world's top 200 supercomputers on the standard Linpack benchmark. When fine tuning is completed, Samson will be able to complete 200 billion arithmetic operations per second, or 200 gigaflops.

"You would have to go to Aberdeen Proving Ground in Maryland or to the Pittsburgh Supercomputing Center before you would find the next computer that could compete with this," he said. "This will not be a supercomputer you can't touch, off in some government lab."

Matthaeus said the supercomputer project is the result of a $500,000 National Science Foundation major research infrastructure grant, which was sought because physics and astrophysics researchers at Bartol were in need of equipment capable of highly complex calculations and also in need of training on equipment that can carry out parallel calculations.

Because the single unit supercomputers manufactured by such industry giants as Cray and

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