

science

Prof attends nuclear forum in Moscow

By ALEXANDER SOAST
Collegian Science Writer

Rustum Roy, director of the University's Science, Technology and Society program, recently traveled to the Soviet Union to attend the International Forum on the Comprehensive Test Ban, held in Moscow July 11-13.

About 150 scientists attended the forum to discuss "their concern about the issue of the banning of nuclear tests," said Roy. The forum was held by the Soviet Academy of Sciences and did not include talks on arms limitations.

"Three things have happened recently that make possible and likely a comprehensive test ban," Roy said, adding that "if you stop testing, you cannot develop new weapons."

"First, on Aug. 6, 1985, (Soviet Communist party leader Mikhail) Gorbachev announced a unilateral moratorium on nuclear testing," Roy said. In effect, Gorbachev was saying, "We will not test, why don't you join us — we challenge you to join us," Roy said.

distinguish nuclear explosions from earthquakes," Roy said. This makes explosion detection "duck soup."

To avoid detection, the Soviets would have to try to decouple an explosion. Decoupling would require "making a big hole in the earth the size of a football field," and detonating the explosives within the hole, Roy said.

However, American spy satellites would detect such digging activity, he added.

The third and "most remarkable" breakthrough is that the Soviets are letting Americans visit Soviet nuclear test sites, Roy said.

"They signed an agreement and under American instruments are in the Soviet Union," he said. The Soviets will also be allowed to install their seismometers on American test sites in Nevada, Roy added.

"With these three breakthroughs, Mr. Reagan knew he was licked. He couldn't use the old excuse of verification and technology problems," Roy said, adding that even if Reagan does not agree to a test ban treaty, Congress will support the treaty by cutting test funding. Each test costs tens of millions of dollars, he said.

"By the time (testing funds) hit the 1987 budget, Congress will say 'knock off that chunk,'" Roy said, adding that a test ban treaty would be a "cheap way for Mr. Reagan to appear as a peacemaker."

"(Reagan's) no dummy, if it's going to happen, he's going to get the credit for it," Roy said.

The exchange of scientific information was also an important part of his trip to Moscow, Roy said. While there, he discovered that Soviet technology in the area of diamond synthesis is much more advanced than similar American technology in that field.

The Soviets have developed a process for manufacturing diamonds under low pressure that is cheaper and easier than high pressure, Roy said, adding that Penn State is a premier university in the United States for diamond synthesis research.

The University's Material Research Laboratory "is the lead agency in the nation for trying to catch up to (the Soviets and Japanese) in diamond synthesis," Roy said.

Last spring University researchers synthesized diamonds under low pressure using techniques that the Japanese learned from the Soviets, he said.

The diamonds can be used to coat



Rustum Roy

objects and make them harder. Materials with diamond coatings, such as records, would never wear out, Roy said.

Another example of shared scientific information is the possible application of University research at the Chernobyl disaster site, he said. A type of concrete to be used as a containment material for radioactive waste has been developed by researchers here at the University.

While in the Soviet Union, Roy was honored with the Kurnakov Medalion of the Institute of General and Inorganic Chemistry. Upon receipt of this award, Roy said he joined "a club of distinguished people."

(The scientists) reported on the fact that we have got such good instruments that we could... clearly distinguish nuclear explosions from earthquakes.


— Rustum Roy, director of the University's Science, Technology and Society program

Second, better techniques have been developed to verify whether nuclear tests have occurred. Nuclear test verification has always been an obstacle for the Reagan administration, Roy said. "We always said we couldn't trust them." But now, American improvements in seismometers — instruments that measure the vibration of the Earth — have made accurate detection of nuclear explosions possible.

"(The scientists) reported on the fact that we have got such good instruments that we could... clearly

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PSU develops STS program for Lincoln

By MARC LOGAN
Collegian Science Writer

Faculty members from Lincoln University met with Penn State Science, Technology and Society experts this weekend to discuss final plans for an STS course to be offered at Lincoln this fall.

Leonard Waks, a Penn State professor of STS and coordinator of the summer STS workshop, said STS is a relatively new and very popular field in education. STS programs strive to make students responsible citizens by educating them about the potentials of modern technology and about their role in controlling that technology.

"STS is general education for a technological society," said Rustum Roy, director of Penn State's STS program. "For a student or adult to be functionally literate in a contemporary society, she or he must have acquired — by one means or another — the rudiments of what is included in STS."

"STS has become the fastest growing subject matter field in the halls of academia in both the

United States and in Britain, and more recently in other countries," he continued.

Most states in the United States and provinces in Canada are developing new options for a third-year science course to fulfill the requirements for high school graduation. STS would be this course in most cases, Waks said.

STS began in response to the "back-to-nature reaction to technological shocks of the late 1960s," Waks said, and Penn State has had an STS program almost since the inception of the STS idea.

Lincoln, the nation's oldest all-black university and alma mater to many black leaders, hired Penn State's STS department to use its experience and leadership to develop a program that will meet Lincoln students' needs, Waks said.

"We think that STS constitutes one central direction that minority education will be moving in," said Dana Flint, director of Lincoln's Honors Program and chief administrator of its new STS program.

"Our students will become some of the nation's

future leaders. Since science and technology are significant factors in decisions made by social leaders, our students will need to be aware of their influence," he said.

"Also, we want to prioritize the connection between STS and work, for the simple reason that our students are quite legitimately concerned with getting jobs."

"We are tailoring the program to our students' more immediate needs, while making them aware of the broader social issues," he said. Lincoln hopes to eventually develop a minor in STS, he added.

Lincoln instructor Samorel Jones-Webster said, "I've been led to a commitment to the discipline of STS and will do all that I can to help give it a strong positive image at LU."

"The PSU element — Leonard Waks, Barbara Baroni, Bill Williams — supplied all the necessary information and organization to make the work possible and, as well, enjoyable," added J.K. Van Dover, a Lincoln associate professor of English.

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science

Rabies still spreads across Pa.; reported cases double in 1 year

By JENNIFER SMITH
Collegian Science Writer

Rabies continues to spread eastward across the state, infecting the wild animal population, said a spokesman for the Pennsylvania Department of Health.

Bruce Reimer said 333 rabies cases in animals have been reported this year, doubling the number of cases reported at this time last year. By the end of July, 10 kinds of animals were found to carry the disease.

Raccoons are the most common carriers, bearing 238 of the 330 cases; skunks were second with 42; foxes, bats, cats, groundhogs, dogs and horses follow. One case has been found in a cow and one in a donkey.

Reimer said successful vaccination clinics have been held to give pet owners a chance to vaccinate their pets. "The last time we contacted the veterinary medical association (which held the clinics), they had covered most of the (affected) counties," Reimer said, adding that, "We saw really good turnouts at the beginning."

Attendance at rabies clinics throughout the state has decreased, which probably means most pets have been vaccinated, he added.

Rabies has spread eastward in recent years, Reimer said, adding that raccoons are carrying the disease. "Back in March it crossed the Susquehanna River" here in Dauphin county, resulting in 16 cases," he explained.

Rabies might be reported in eastern Pennsylvania in the near future since the river is no longer a barrier, he added.

The most recent cases reported have been in York County with 102 cases, Perry County with 81, and Cumberland County with 40. Centre County has reported 23 rabies cases.

"Twenty-five counties have reported at least one case, Reimer said. Six of those counties — Butler, Mifflin,

Monroe, Lackawanna, Armstrong and Snyder — reported cases as early as March.

Mark Henry, State College public health officer, said animals suspected of having rabies or having contact with a rabid animal are quarantined for 10 days of observation. If rabies symptoms appear, an animal is destroyed.

When stray or wild animals are suspected of rabies, "We'd probably have to destroy it and have it checked for rabies," Henry said.

Henry added that anyone bitten by a rabid animal should immediately contact the family doctor or go to a hospital emergency room. First aid for rabies bites includes washing the wound and wrapping it loosely to prevent contamination from dirt.

Eileen Lepro (senior-health education), intern with the Office of Health Promotion and Education at University Health Services, said antiseptic should also be used to cleanse the wound.

"The treatment for rabies is a series of shots, including a vaccine and serum derived from human cell cultures. Other shots will follow, but the number of injections may vary with the medical facility. Injections are administered in the arms, shoulders or buttocks, Lepro said.

Tom Drake, extension veterinarian at the University's animal disease lab, said it's possible that the University Park campus could be affected.

"The treatment to segregate around housing areas like the campus," Drake said.

But, the squirrels — seldomly affected — should not pose a threat, he added.

"We have had a reasonable number of skunks," he said. In any case, "don't put yourself at risk" by approaching wild animals.

On campus, students who find an animal acting in an unusual manner should contact campus police, said Linda Schutjer, temporary supervisor for University Police Services.

Pa. lawmakers debate rabies bills

HARRISBURG (AP) — The chairman of the House Game and Fisheries Committee said yesterday that he supports mandatory rabies shots for all dogs and cats but such a proposal doesn't have enough backing in the Legislature.

Rep. Russell Letterman, D-Centre, said the legislation with the best chance of passage would require vaccination of dogs and cats in areas designated as having a high risk of rabies. Such a bill, sponsored by Letterman, has been approved by the House and sent to the Senate.

"I still think we should mandate that every dog and cat get a rabies shot but the support just isn't there," Letterman said.

Letterman made the comment after the committee couldn't muster enough members to hold a meeting to act on another rabies

bill, sponsored by Sen. Edward Helrick, R-Northumberland.

Helrick's bill, already approved by the Senate, would require that all dog owners show proof that they have vaccinated their pets against rabies before they would be allowed to receive a dog license.

However, Letterman said he would attempt to amend Helrick's bill by gutting it and inserting similar provisions that the House already has approved. Letterman had planned to amend the legislation yesterday, but the committee fell one member short of the 13 needed to conduct a meeting.

If the Senate disagrees with the changes, the proposal would go to a House-Senate conference committee that would be formed to reach a compromise.

Letterman said the House legislation is more comprehensive in that it mandates the Game Commission develop a program for vaccinating wildlife, which are primarily responsible for spreading the disease.

Helrick was not available for comment on the legislation, said a secretary in his Harrisburg office.

The rabies outbreak continues to worsen in Pennsylvania, spreading into six more counties during July, the Health Department said. Butler, Mifflin, Monroe, Lackawanna, Armstrong and Snyder counties confirmed their first rabies cases last month.

Health officials have confirmed 330 cases of rabies in 25 counties so far this year. During the same period last year, 167 cases were found.

Raccoons have accounted for most of the cases, but skunks, foxes, bats, cats, groundhogs and dogs have also been affected.

police log

- A wooden-framed sign valued at \$200 was reported missing Saturday from The Train Yard, 418 E. College Ave., State College Bureau of Police Services said.
- Two men were treated at Centre Community Hospital Sunday for minor injuries sustained in a collision involving a motorcycle and a pedestrian in the 300 block of South Allen Street, State College police said. M. Scott Bratton, 863 Galer Drive, operator of the motorcycle, was treated for injuries to his arms and legs, and Mark Young, 120 W. Fairmount Ave., was treated for an arm injury.
- Five people were issued citations Sunday after they were apprehended in the utility tunnel near Shortridge Road, University Police Services said.
- by Karl Hoko

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