

ably introduce a revised version of his bill in the Congress that begins this year, but that how seriously the matter is pursued by the Subcommittee will probably depend in part on how clearly the Fiscal Year 1982 budget, which is due to be sent to Congress later this month, reflects the new emphasis on engineering. That being the case, NSF

may be in for a turbulent year, for Slaughter, in his talk before the two associations, warned that "the nature of this reorganization reflects a subtle, yet significant shift in the way we plan for and allocate our resources rather than *specific immediate decisions* on dollar amounts or proposed allocation of those resources." —MEJ

Soviet repression of dissidents

Soviet aggression in Poland and Afghanistan has dominated the news in recent months, but a new wave of aggression against dissident scientists within the Soviet Union's own borders has not gone unnoticed here in the US. The Soviet crackdown on dissidence has further eroded scientific relations between the Soviet Union and the US.

In November, Soviet computer scientist Viktor Brailovsky was arrested for "defaming the Soviet state and public order." Brailovsky has been the host of the Moscow Sunday Seminar on Collective Phenomena, which has been conducted weekly in private apartments since 1972 by dissident and refusenik scientists to counteract their exclusion from official Soviet science. According to newspaper reports, Soviet police have denied entry to the Brailovsky apartment to seminar members who, despite Brailovsky's arrest, sought to continue their weekly scientific sessions.

Brailovsky's arrest met with immediate protest from several groups in the US. Telegrams urging Brailovsky's release have been sent to various Soviet authorities by The American Physical Society, the Committee of Concerned Scientists (a human rights organization of over 4000 US scientists), the New York Academy of Sciences, participants in a December International Conference on Pattern Recognition (Brailovsky is a specialist in pattern recognition) and participants in the November Statistical Mechanics Meeting and the Eastern Theoretical Physics Conference, both held at Rutgers.

Word of Brailovsky's arrest reached the West just as official delegations from 35 European and American nations prepared to convene the Madrid Conference on Security and Cooperation in Europe, which is reviewing compliance with the 1975 Helsinki Accords. In his opening remarks at the Madrid Conference, US delegate Max Kampelman referred to Brailovsky's arrest.

Prior to the start of the Madrid Conference, The American Physical Society prepared a report on violations of the Helsinki Final Act with regard to physicists. Among the cases of human rights violations that the report high-



BRAILOVSKY

lighted were:

Yuri Orlov. Orlov has been in a labor camp since 1978, and has been in solitary confinement since August. He reportedly went on a hunger strike coincident with the opening of the Madrid proceedings.

Andrei Sakharov. Still under internal exile in the closed city of Gor'kii, Sakharov was able to transmit a letter that appeared in the 13 November issue of *Nature* in which he demands a public trial for his "crimes" and writes of the harsh life he is forced to lead, including "almost total isolation," a 24-hour guard on his apartment and KGB searches of his home.

Josif Dyadkin, a physicist who worked at the Geophysical Institute in Kalinin. He has been sentenced to three years in a labor camp for slander, apparently because he compiled a demographic study of persons who died under Stalin's rule.

Also timed to coincide with the start of the Madrid meeting was perhaps the largest international protest yet against treatment of refusenik Soviet scientists. 7900 scientists and engineers from 44 nations, including 32 Nobel laureates, agreed in October to a moratorium (originated by Scientists

for Sakharov, Orlov and Scharansky) on professional contacts, visits and exchanges with the Soviet Union.

"What happens at Madrid will determine what our future actions will be," said Stanford's Paul Flory. "Our moratorium clearly demonstrates that if Soviet human rights violations continue, then regardless of official agreements at Madrid, future scientific exchange programs will be severely curtailed because of personal non-cooperation by thousands of prominent scientists outside the Eastern Bloc countries."

A good deal of collaborative activity has already been interrupted with the Soviet Union (PHYSICS TODAY, March 1980, page 133). The organizers of an international symposium on photon-photon collisions that was held in France last April issued "anti-invitations" to Soviet physicists, stating that under present circumstances, it was unfortunately impossible to invite them. An international symposium on collective accelerators was scheduled for the fall at Dubna, in the Soviet Union, but was cancelled on one week's notice. While no reason for this has been made public, it is known that only four or five foreign scientists had accepted invitations, whereas normally there would be 20-25. As part of the collaborative agreement between the USSR and CERN, a Soviet team of physicists was to spend an extended period at CERN this summer on a project in accelerator physics. This visit had to be cancelled because key CERN physicists were unwilling to participate. In addition, some US scientists have refused to show Soviet visitors around their own laboratories.

Another door was closed to the Soviets by the National Academy of Sciences' moratorium on all bilateral meetings, symposia and workshops with the Soviet Academy of Sciences. The ban was first instituted last February in response to the exile of Sakharov and was extended last July. Exchanges of individual scientists are continuing. In announcing its decision, the Academy specifically exempted joint meetings on arms control and disarmament, saying that it would press for meetings of scientists of the two countries to discuss the technical aspects of this problem.

The interacademy exchange agreement expired last month, and no attempt has been made to renew the pact. However, according to an NAS spokesperson, those exchanges not affected by the moratorium will probably proceed uninterrupted.

One "very healthy trend," in the view of Kurt Gottfried, chairman of the APS Committee on the International Freedom of Scientists, is that in addition to the French, other Europe-

an scientists are becoming more involved in Soviet rights issues. But what effect any amount of international protest can have on the treatment of dissidents in the Soviet Union, Gottfried believes, is in large measure dependent on the foreign policy the Soviet Union is trying to maintain at any particular time. When detente between the US and USSR was at a high in the 1970's, for example, accusations of human rights violations had much more impact than they do today, when world attitudes toward the Soviet Union are framed by larger issues, such as the invasion of Afghanistan and the possible invasion of Poland. "Once they were invading Afghanistan," Gottfried told us, "the Russians knew they would get so much flack that they decided to clean house too, at no extra charge."

—MEJ

in brief

A new quarterly journal of the Hospital Physicists' Association (UK), *Clinical Physics and Physiological Measurement*, is now available. A year's subscription costs \$115.00 and can be obtained from the American Institute of Physics, Marketing Services, 335 East 45 Street, New York, N.Y. 10017.

The University of Illinois at Urbana-Champaign physics building has been renamed the "Loomis Laboratory of Physics" in honor of F. Wheeler Loomis. Loomis, a former president of the American Physical Society, headed the Illinois physics department from 1929 to 1957.

A report detailing the flow of Federal

funds to academic and other selected nonprofit institutions has been published by the National Science Foundation. *Federal Support to Universities, Colleges, and Selected Non-profit Institutions, Fiscal Year 1977* (NSF 79-317) may be purchased from the Superintendent of Documents, US Government Printing Office, Washington, D.C. 20402 for approximately \$3.50.

The University of California Board of Regents has approved the establishment of a center for the study of high-energy particle physics on the Santa Cruz campus. Known as the Santa Cruz Institute for Particle Physics, the center will encompass both research and instructional activities in experimental and theoretical elementary-particle physics.

Paul L. Sitton has been appointed executive officer of the National Academy of Sciences and the National Research Council. Sitton, former special assistant to Academy president Philip Handler, succeeds Robert M. White to the post.

The Department of Defense Research and Engineering Office is considering a new program aimed at increasing the participation of small, high-technology businesses in defense-related research and development. Firms interested in receiving program information can be placed on a mailing list by writing to Hal C. Felsher, Director, Small Business & Economic Utilization Policy, Office of the Under Secretary of Defense for R & E, The Pentagon, Room 2A340, Washington, D.C. 20301.

NSF has revised its rules regarding reconsideration of rejected proposals. The new rules clarify the proce-

dural steps that NSF will follow on request from the principal investigator and now allows investigators whose proposals are returned because they are deemed inappropriate for NSF consideration to request reconsideration.

A new section of *Physica* is now being published. Hermann Flaschka, Joe Ford, Alan C. Newell and Alwyn Scott are the editors of *Physica D/Nonlinear Phenomena*, available from Elsevier North-Holland Inc, 52 Vanderbilt Avenue, New York, N.Y. 10017 for \$98.00 per year.

The American Vacuum Society is now accepting scholarship applications for graduate study during the 1981-82 academic year in vacuum science and technology, vacuum metallurgy, surface physics, thin films research, and electronic materials and processing. The application deadline is 31 March. Forms may be obtained by writing to: AVS, 335 East 45th Street, New York, N.Y. 10017.

The Journal of Physical Chemistry has instituted an expanded Letters section intended to provide a forum for the speedy publication of short papers on physical chemistry and chemical physics. The 2000-word (or less) papers are to be prefaced with a 100-word abstract and should be forwarded to Mostafa A. El-Sayed, Department of Chemistry, UCLA, Los Angeles, Cal. 90024.

1980-81 Speakers, Tours, and Films, a book listing over 790 lecturers, more than 320 tours of physics-related institutions and some 60 science films, is now available. Copies cost \$10.00 and may be ordered from the Society of Physics Students, 335 East 45th Street, New York, N.Y. 10017.

the physics community

AIP Corporate Associates meet at Bell Labs

The theme of the 1980 AIP Corporate Associates meeting was challenges to US physics. These challenges include the increasing costs of research, the changing industry-university interaction and the need for new institutions for international problems. The meeting was held 30-31 October at Bell Laboratories, and the 215 persons attending included representatives of the Corporate Associates, physics-department chairmen, AIP governing board and government officials. The following day, AIP dedicated its new building in Woodbury, Long Island; it will supplement the headquarters building in Manhattan.

Robert Marshak (University Disting-

uished Professor of Physics at Virginia Polytechnic Institute and State University) said that the US must help carry the world through the 21st century. "We must look to basic scientists for unselfish service." Citing Paul Doty's Center for Science in International Affairs at Harvard, which deals with the dangers of war, Marshak suggested the need for other on-campus centers—for technology transfer in developing countries, for the study of weather and its effects on agriculture, for urban problems. He would like to see the American physics community help set up a North American branch of the International Foundation for Science, extending its programs to applied science.

Richard A. Zdanis (vice provost at The Johns Hopkins University) described the costs of doing research at a

university. In the period 1971-80 the Consumer Price Index rose from 100.0% to 195.4%, while in the same period the salaries of faculty involved in research and development rose from 100.0% to only 157.2%. Meanwhile technicians, for example, had salaries raised from 100.0% to 186.1%, almost keeping pace with inflation. In general the faculty salaries are falling further behind other staff categories; as a result many faculty members consult to supplement their university incomes. On the other hand, in industry, a typical researcher moves into management to keep pace with inflation. Another financial problem is that although equipment is becoming more sophisticated, both operations and maintenance have not been well funded.