

Nagy, a University of Michigan space scientist, and a Hungarian by birth. After leaving Hungary at an early age and building a career in the United States, Nagy became acquainted in the late 1970s with Tamas Gombosi, a Hungarian scientist who was working with the Soviet planetary exploration projects. In 1980, Sagdeev invited Nagy to participate in Soviet interplanetary programs.

According to Nagy, the Hungarian-built instruments on Vega will measure the low-, middle- and high-energy plasma environment of Halley and investigate the interaction of the solar wind with the comet's plasma environment. Nagy says the Hungarian equipment will measure proton energies of less than 15 keV and electrons with energies of less than 5 keV. In Nagy's estimation, the Hungarian instruments are "very sophisticated and up-to-date—today's technology."

Bradford Smith, the Arizona planetary scientist who is working on the Vega imaging team in Hungary, says that the charge-coupled devices that the Russians built for the mission also are "state of the art." Smith believes that it is "easy to imagine a whole range of missions of different scales" in which more US-Soviet space cooperation would be fruitful. Simpson also is enthusiastic about the possibilities that such cooperation would open. Specifically, Simpson thinks there would be many exciting uses for US instruments on the Soviet Union's planned unmanned mission to Mars and Phobos in 1988 and its proposed mission to an asteroid, not to speak of its extravagant idea for a manned mission to Mars.

Sagdeev, though considered more open and relaxed than most Soviet officials, can scarcely have taken his initiatives without top government clearance. Speaking at a symposium on Star Wars held in Washington during January, Sagdeev was careful to hew closely to the party line on the prospects for expanded space cooperation. He indicated that there would be little chance of much more cooperation if the United States persists with the Strategic Defense Initiative. As long as the US is pouring billions of dollars into Star Wars, Sagdeev said, expanded space cooperation could only be a "psychological tranquilizer."

Sagdeev emphasized the importance of negotiating a formal space cooperation agreement, insisting such an agreement is necessary if cooperation is to resume on a larger scale. Sagdeev noted that the Soviet Union has a space agreement with France and observed more generally that there is much more Russian cooperation with European space scientists than with US scientists. Scientists from Austria, France, West Germany, Bulgaria, Hungary,

East Germany, Poland and Czechoslovakia have been involved in Vega.

Simpson agrees on the importance of a formal space cooperation agreement, noting that Congress passed a resolution late last year urging the President to negotiate a new agreement, which Reagan has since signed. Simpson and others point out that it is usually more risky for Soviet scientists to take initiatives toward cooperation without the security a formal agreement provides. Some of the scientists connected with Vega believe, in fact, that the US-Soviet cooperation in this project was an even more sensitive matter in Moscow than in Washington. At a time when relations have been extremely strained, however, it must have been quite delicate enough for the officials in Washington who had to act on export requests.

Presidential science adviser George A. Keyworth II, asked in a recent interview whether he expects much new science collaboration between the United States and the USSR now that arms-control talks have resumed, replied that he doesn't "spend a lot of time talking to the Soviets, as you know." Keyworth said that he would play a role in exploring collaboration if the President asked him to do so, but that "it's certainly not going to be on my initiative." —ws

Education

AIP Employment Survey finds an improving job market

The latest AIP Employment Survey found the market for graduating physicists markedly improved in 1983 by comparison with the previous year, when it took new recipients of PhDs longer to find jobs and more of them found none. In 1983, about 44% of new PhDs in physics found jobs in two months or less, up from 34% the year before. Of those who earned terminal master's degrees in physics in 1983, 85% found jobs related to physics, a majority of them within two months. Of those who earned bachelor's degrees and did not plan to continue immediately with graduate study in physics, 44% had lined up jobs by the time they graduated.

The latest AIP Employment Survey analyzes responses to questionnaires sent at the end of 1983 to new graduates who indicated the previous summer that they intended to find jobs. Of 921 persons reported to have received PhDs in 1983, 476 individuals responded to AIP's follow-up survey in Winter 1983-84. About half of the 1983 respondents accepted postdocs, and half took potentially permanent jobs.

Traditionally, experimenters have

tended to have better luck lining up potentially permanent jobs while theorists have tended to take postdocs. In 1983, however, that difference disappeared, mainly because of higher demand for US physicists. Of the respondents who took potentially permanent jobs, 82% found work related to physics, and, of this group, 60% found jobs in the same subfield of their PhDs and 40% outside their subfields. The year before, 55% of the corresponding group left their subfields. Three quarters of the PhDs who accepted postdocs in 1983 specifically sought postdocs, and almost all of them got postdocs in their subfields—95% in elementary-particle physics, for example, and 87% in solid-state physics. About two thirds of the 1983 postdocs were for more than one year, up from 57% the year before. Students who specifically sought postdocs seemed to stand the best chance of getting postdocs of two years or more.

Among the respondents to the 1983 survey, 70% expressed no interest in making a job change within two years, up from 62% in 1982 and 59% in 1981. Compared to physics masters in earlier years, more of the 1983 graduates took jobs with the government and fewer with industry.

The latest Employment Survey is available free of charge from Susanne D. Ellis, Manpower Statistics Division, AIP, 335 East 45th Street, New York, NY 10017. (Request Publication No. 282.7.)

IBM to award new grants for materials science research

IBM has announced a \$25-million grant program to help universities do research and develop graduate curricula in the materials and processing sciences. IBM will fund 12 grants, each for up to \$1 million in cash plus \$1 million in IBM equipment. Anticipating that advances in information processing will depend on new knowledge and understanding of materials, IBM would especially like to encourage research on thin films (layers of materials as small as tens or hundreds of atoms thick), polymers with unique combinations of controllable properties, and processes that take place at the interfaces between materials.

Universities wishing to compete for grants can submit preliminary proposals by 2 April to the IBM Director of University Relations, IBM Corporation, Old Orchard Road, Armonk, NY 10504. IBM will award planning grants of between \$5000 and \$12 000 to 30 institutions selected from those that submit preliminary proposals. Final selections for grants are to be made by March 1986. □