

Education

Retired scientists provide valuable volunteer work

The American Association of Retired Persons has launched a new program to provide volunteer opportunities for "senior scientists and engineers." The program is to start this fall in the Washington, D.C., area, and if pilot projects prove successful there, AARP hopes to establish the program nationwide. The Washington-area program already is being connected with a computerized "Volunteer Talent Bank," which the AARP is bringing into operation this summer to match skilled volunteers with opportunities all over the country. AARP has been "inundated by requests from agencies" for volunteers, says Diana Galloway, the AARP staffer responsible for the data bank.

Senior scientists have bandied about the idea of a volunteer program for quite some time, but the immediate impetus for AARP's senior scientist project came—appropriately—from a match between a scientist and an expert on volunteer programs. Several years ago, Edgar A. Edelsack, a physicist who awards grants for the Office of Naval Research in Washington, married Charlotte Nusberg, coordinator of international programs at AARP. Seeking something they could work on together, Edelsack and Nusberg hatched the idea of starting a volunteer program for retired scientists and engineers. AARP, already eager to get more professional people involved in volunteer work, considered it sensible to concentrate on scientists and engineers for a number of reasons: The Association increasingly was receiving requests for volunteers with technical skills; scientists and engineers appeared to have the appropriate qualifications for many of the jobs; and, equally important, they generally have the income, health and stamina to cope with challenging volunteer tasks.

Nusberg, staff director for the senior scientist project, says that it will have three main thrusts: to solicit independent initiatives from AARP members, to work with public and voluntary agencies to use people with scientific and technical skills, and to involve

volunteers directly in AARP's work. Nusberg's staff already has identified volunteer opportunities in the District of Columbia and adjacent counties that range from tutoring school pupils in the basic principles of scientific method to advising foreign governments on how to design and deploy windmills for salt production.

Edelsack, who is serving as interim chairman of the senior scientist program, thinks that international work is likely to be especially appealing to retired scientists because of its "romance." Organizations such as Volunteers In Technical Assistance, based in Arlington, Virginia, and the Peace Corps attract many volunteers who are 55 or older. But Edelsack also expects to see volunteers get involved in education, science advocacy, and governmental work. He notes that many agencies are in urgent need of help with environmental, safety and health problems.

Museum work is an important area in which retired scientists already are active in many parts of the country. The Smithsonian Institution in Washington employs some 4200 volunteers a year, and a wide variety of jobs require highly skilled people. Scientists res-

tore, maintain and demonstrate displays; catalog specimens; do technical translating; and provide skilled assistance for several specialized laboratories, research and archival facilities. Similar volunteer opportunities sometimes are available at school facilities, such as the science center serving the system in Prince George County, Virginia (see illustration).

James R. Lindsay, executive director of The Volunteer Clearinghouse of the District of Columbia, is inclined to see the "most potential for technical volunteers in city government" because of the need to sustain services in times of severe budget cuts. But Lindsay observes that you have to "walk a thin line" dealing with state and local governments because unions tend to be deeply suspicious of volunteers. He warns that a lot of careful work will have to be done on "job development"—helping agencies to think about how they might be able to use highly skilled people, smoothing personal relations between volunteers and bureaucrats and, in cases where a placement does not work out, doing follow-up work to find out what went wrong. Speaking at a conference AARP recently held in



Volunteer Hayward Hunt, a retired government scientist, explains blood cells to pupils at Howard Owens Science Center, which serves all the public schools in Prince George County, Virginia. (Photo by A. N. Likens.)

Washington, Lindsay said that most agencies "probably have never asked themselves what they might do with a metallurgical engineer," and confronted with such a highly skilled person, they are likely to be "scared to death."

Matching volunteers with appropriate jobs may be trickiest in education. Even in the Washington area, where there is an abundance of highly experienced scientists and engineers, many of whom have worked for government agencies and might enjoy working with children during their retirements, school systems have had little experience in dealing with highly trained volunteers. When science organizations have attempted to get their retired members to give time to educational projects, the results have not always been encouraging.

A couple of years ago, a committee headed by physicist Wolfgang Franzen of Boston University sent a request for volunteers to some 650 people listed in APS files as retirees. Franzen says that about 70-75 people responded, some negatively, and when the committee sent a second mailing to the 15 respondents who seemed most enthusiastic, they too "virtually evaporated." The committee wound up with just two serious volunteers and decided last fall not to pursue the project. Judy Franz of Indiana University, who chairs the APS Committee on Education, reports that the American Chemical Society had a similar experience when it tried to set up a volunteer program in the Philadelphia area. A retired school teacher contacted 400 retired chemists for the Society and got just 12 responses, she said.

F. James Rutherford, chief education specialist for the American Association for the Advancement of Science, observes that successful volunteer projects in education tend to be "local and ephemeral." Still, Rutherford hastens to add, a few years with a good project are better than a few years without one. Echoing a view heard from many education specialists, Rutherford said that successful volunteer projects almost always depend on "one person who is exceptionally eager."

One such person is retired physicist Milton Slawsky, who runs a volunteer teaching program at the University of Maryland, and another is his identical twin brother Zaka Slawsky, also a retired physicist, who co-directs the program. When they retired in the mid-1970s—Zaka as head of physics research at the Naval Ordnance Laboratory, Milton as head of physics at the Air Force Office of Scientific Research—they were asked to do tutoring by the University of Maryland physics department, which considered mathematics the main stumbling block for students who were having trouble with

physics. The Slawsky brothers soon found, however, that the real problem for most students was learning to express physical concepts in mathematical language, not the technicalities of mathematics as such. They switched to a conceptual approach, which has proved helpful and appealing to thousands of students over the years. Altogether, with the help of four other retired physicists, the Slawsky brothers coach roughly 500 Maryland students per semester. Their physics "clinic" is open five hours a day, Monday through Friday, and the six volunteers put in a total of about 100 hours a week. By a conservative estimate, based on standard teaching salaries for tenured professors, the time they donate as a team is worth about \$125 000 per year.

The Slawsky brothers believe that physics clinics are a necessity for all big universities, and they are convinced that such programs can only be run on a volunteer basis, because it would be economically unfeasible to employ salaried professors full-time to coach significant percentages of students from large lecture courses. At the same time, Milton Slawsky admits that it is "not easy to get people to do this." "You need at least one guy who is really dedicated," says brother Zak, and the person "has to really love working with young people." On the other hand, Zak notes, "being a tutor is stress-free: There are no exams, no grades, no acting like God. All you have to do is help kids."

Another innovative project designed to help children in the Washington area is "Adventure in Science," a Saturday-morning seminar somewhat similar to ones being run at some laboratories and universities around the country. Located in Gaithersburg, Maryland, about 20 miles north of Washington, Adventure in Science is for pupils aged 8 to 15. It was started 11 years ago by Ralph R. Nash, a retired physicist who worked at NASA headquarters for 23 years. Nash originally held all sessions in his basement at home and he has supplied much of the equipment used in the seminars, which stress a "hands-on" experimental approach. Sessions currently take place at two basement labs and in space provided by the National Bureau of Standards, and the Bureau may provide additional room.

Nash says that parents drive their children from as far away as Alexandria, Virginia, south of Washington, to attend the sessions, which cover "everything from astronomy to zoology." Nearly 100 pupils participated this year, and about 70 area professionals helped conduct the sessions. All the volunteer instructors are mid-career people at the present time, but Nash thinks that retirees would be "even

better," partly because they have a "whole lifetime of experience," partly because they would be free to teach days other than Saturday. Nash thinks that retired scientists and engineers represent a "field of expertise that is lying fallow."

Many retired scientists and engineers would resent any implication that they are unoccupied, but it is not necessary to be bored to find some reward in putting one's mind and one's skills to work on problems that communities have had trouble coping with. According to AIP Director H. William Koch, "the Institute has had many inquiries in the past from retired physicists interested in volunteering their services for some worthy purpose, but we have not always been able to suggest the right match to useful work." Koch said that AIP will be delighted to forward such requests to AARP.

A free report listing volunteer opportunities, mainly in the Washington area but also to an extent nationwide, can be obtained from Charlotte Nusberg, AARP, 1909 K Street, Washington, D.C. 20049. —ws

Floyd Dunn elected Acoustical Society President

The Acoustical Society of America announced the results of this year's election at its meeting in Norfolk, Virginia, last May. The Society's new president-elect is Floyd Dunn of the University of Illinois, Urbana. The new vice-president-elect is Harvey H. Hubbard of The College of William and Mary's Virginia Associated Research Campus in Newport News, Virginia.

Dunn earned his PhD in electrical engineering at the University of Illinois in Urbana in 1956. He joined the faculty of the University of Illinois at Urbana in 1957 and he has been a professor of biophysics, electrical engineering and bioengineering at the university since 1965; he also received his BS (1941) and MS (1951) degrees there. Since 1976, Dunn has been director of the university's Bioacoustics Research Laboratory. His research has been in ultrasonics, ultrasonic biophysics, ultrasonic absorption microscopy and spectroscopy, bioacoustics and infrasound. He is an associate editor of the *Journal of the Acoustical Society of America* with responsibility for bioacoustics.

Hubbard, a specialist in aeroacoustics, was assistant chief of the Acoustics and Noise Reduction Division of NASA from 1973 to 1980. He previously was head of research on atmospheric acoustics for NASA and, before that, for the National Advisory Committee for Aero-