## ANDREW GEMANT AWARD

*Call for Nominations*

The Andrew Gemant Award of the American Institute of Physics recognizes the accomplishments of a person who has made significant contributions to the understanding of the relationship of physics to its surrounding culture and to the communication of that understanding. The Selection Committee invites nominees for the 1990 award.

*Criteria*

The awardee is chosen based on contributions in one or more of the following areas:

a. Creative work in the arts and humanities that derives from a deep knowledge of and love for physics.
b. The interpretation of physics to the public through such means as mass media presentations or public lectures.
c. The enlightenment of physicists and the public regarding the history of physics or other cultural aspects of physics.
d. The clear communication of physics to students who are learning physics as part of their general education.

*Nature of the Award*

The awardee will be invited to deliver a public lecture in a suitable forum, will be asked to designate an academic institution to receive a grant of $3,000 from AIP to further the public communication of physics, and will receive a cash award of $5,000 at the annual fall meeting of the AIP Corporate Associates.

The Award is made possible by a bequest of Andrew Gemant to the American Institute of Physics. The 1990 Award will be the fourth. Previous awardees are Philip Morrison of MIT (1987), Freeman Dyson of the Institute for Advanced Study (1988) and Gerald Holton, Harvard University (1989).

*Procedures*

The awardee will be named by the AIP Governing Board in March 1990, based on the recommendation of an outside Selection Committee appointed by Board Chairman Hans Frauenfelder.

Send nominations with supporting material to:

John S. Rigden
Director of Physics Programs
American Institute of Physics
335 East 45th Street
New York, NY 10017

Deadline for receipt of nominations is *31 December 1989*.

Experiments with narrowly defined goals should be small in scale and inexpensive, while larger devices should be capable of serving a multitude of objectives.

ROBERT JONES
*Emporia State University*
*4/89* *Emporia, Kansas*

By the time this letter appears, I trust that it will have dawned on the physics world that the energy found by Stanley Pons and Martin Fleischmann is the energy of the crystal structure of palladium, or other reaction metal, given up when the process of hydrogen embrittlement destroys the ordered structure of the metal.

Using the same logic I have seen verbalized, I can very easily create a system having an energy gain of millions. All I have to do is supply a few joules to an explosive squib attached to a ton of TNT. The thermal energy I get out is a lot more than the electrical energy I put in.

YALE JAY LUBKIN
*5/89* *Owings, Maryland*

There is a certain similarity between the attempt to develop flight capability and the effort to attain energy from nuclear fusion.

In the case of flight, humans began by trying to imitate nature, in particular the flight of birds. After hundreds of years of such efforts, success was attained by embarking upon a different road.

In the case of the fusion process, we are again trying to imitate nature, in particular the processes in the interior of the Sun. And despite predictions made more than 20 years ago, we still have not succeeded.

Even if the recent reports of success in attaining energy from fusion turn out to remain unsubstantiated, they can be helpful in getting us to look for solutions other than the one of following nature. Just as the departure from this last tactic in the case of flight led to success, so departure in the case of fusion may enable us to attain more energy from fusion than we put into it.

SAUL BIRNBAUM
*4/89* *Bronx, New York*

## No Jingoism at High-$T_c$ Meeting: Graham

Although Irwin Goodwin is an unusually careful and thorough science journalist, his news story in the July issue (page 47) perpetuates a myth concerning the July 1987 Federal Conference on Commercial Applications of High Temperature Supercon-

ductors. The myth is that all foreign scientists, businessmen and embassy officials were denied permission to attend that conference.

In fact, the nationality of individuals was not at issue, nor was it determined. Representatives from US industry, along with interested parties from national laboratories and US universities, were invited to the meeting. The logic was clear: The conference was for them. A primary objective of the conference was to overcome the inertia that inhibits too many of our industries, and to help them see both the opportunities and the challenges that this high-technology breakthrough created.

Few of the industrialized countries would consider it strange for a government to do some hard talking with its industries. Nothing about the meeting was secret, and both foreign and domestic reporters attended. The conference was also recorded, and videotapes could be ordered. On the other hand, there are long-standing cases of exclusion of the US from multinational government-sponsored high-technology activities. For example, the European EUREKA progam, begun in 1985, prohibits significant US participation, a fact that seems to have eluded many of those who raised general concerns over the commercial applications conference.

As Goodwin indicates later in the story, while serving as Presidential science adviser I made a substantial effort to establish a long-term basis for expanded international cooperation in science and technology. I am pleased that several new Presidential-level bilateral and multilateral agreements were negotiated during that time and are now in effect.

WILLIAM R. GRAHAM
*McLean, Virginia*
*7/89*

## New Frontiers for Refuseniks

From 8 to 10 December 1988, I participated in an international scientific conference, "Frontiers of Science," that was held in Moscow, USSR. This conference was unusual because most of the Soviet attendees were scientists who had been refused permission to emigrate. It may be surprising, considering the recent increase in emigration, that enough refusenik scientists remain to hold such a conference. But the fact is that there are close to 400 scientists and engineers still awaiting permission to leave, and some 200 of them have been refused that permission for more than ten years. Of these refuseniks, 38 were able to attend the conference and present original research. Since most of them have been dismissed from their jobs, and thus are excluded from official scientific facilities, their efforts are remarkable.

That the conference was not suppressed, as two earlier ones had been, may be an example of *glasnost*. Visas to enter the USSR were issued to 18 Western scientists (from the US, Canada and Europe) who had applied as tourists. On the other hand, two English scientists who in applying had indicated their intention to attend this conference were not given visas. Thus the conference was not officially acknowledged, nor was it blocked. This sign of relaxation was reinforced at a meeting of governments in Vienna in January 1989. At this follow-up on the Helsinki Accords, the USSR agreed to "review all outstanding [emigration] cases within six months, with a view to resolving them by mid-July."

That period has elapsed, and the policy on emigration remains inscrutable. Although the right to exit is being granted to some, others are held in agonizing refusal. For example, the astrophysicist Vladimir Dashevsky is blocked because he cannot get his in-laws' agreement, although he is himself a grandfather. Another example is the Uspenskii family, whose emigration has been held up because one member, a former researcher in botany, is said, 13 years after her retirement, to have state secrets.

At the close of the "Frontiers of Science" meeting the conference chairman, physicist Yuri Chernyak, expressed appreciation for the vital support provided by Western colleagues and scientific organizations, particularly APS. He urged us to continue this support until the promises of freedom to associate and to emigrate become realities in the USSR. Apparently this need remains even now.

MELVIN POMERANTZ
*Committee of Concerned Scientists*
*New York, New York*
*8/89*

## SDI Is Diamond Research's Best Friend

In our *Physics News in 1988* report "Preparation of Diamond by Chemical Vapor Deposition" (PHYSICS TODAY, January 1989, page S-65) we inadvertently failed to recognize the key role that the Strategic Defense Initiative Organization's Office of Innovative Science and Technology has played in US diamond science and technology since 1986. The IST office provided most of the impetus and Federal funding for diamond research through the Office of Naval Research during a time when US interest in diamond research was low. Likewise, the annual meeting where much of US diamond effort has been reported (reference 6 in our report) is sponsored by the IST office and ONR.

RUSSELL MESSIER
WALTER YARBROUGH
*Pennsylvania State University*
*University Park, Pennsylvania*
*2/89*

## Teaching Students How to Learn Physics

Like Ronald Mirman (July 1988, page 102), we in the physics department at the American College, Madurai, noticed that our "students do not have the skills to learn physics" and decided that teaching them "how to learn physics" is as important as, and indeed is a prerequisite for, teaching them new physics.

For four years we have required all new graduate physics students to take a first-semester course called Basic Skills in Physics Learning. The course meets daily and emphasizes comprehension, communication, analytical and representational skills using already familiar physics—no new concepts are introduced. The course requires individual daily participation in carefully planned exercises to build skills in oral presentation, use of the chalkboard, use of the library (books and journals), taking notes on written material and lectures, problem solving, graphing, pictorial representation of ideas and objects, and group discussion of physics concepts and ideas.

The cultural bias in favor of authority is modified by having the class and the teacher sit in a circle, and cultural barriers between the sexes (a serious impediment in learning by group activity) are lowered by requiring "free seating" with maximum male-female entropy. The course is a "no fail" class. The students are graded on skill improvement as perceived by teachers (usually at least two teachers are present during each class meeting) and peers. This new course has had considerable success in improving learning skills—students and staff alike report this to have been demonstrated during subsequent "new physics" courses. We have also seen a remarkable improvement in the acceptability of our students in the job market.

R. P. RIESZ
V. SRINIVASAN
*The American College*
*Madurai, India*
*11/88*