

# Laboratory Support for Basic Research

The Laboratory has always recognized the need to support a wide variety of basic research, and for most of the Laboratory's history, that research was funded entirely by the weapons program. During the 1970s, however, budgetary constraints made it increasingly difficult to maintain the level of so-called Weapons supporting Research, and in 1975 concern about its steady decrease prompted Harold Agnew to found the New Research Initiatives program as a supplement. However, despite the Laboratory's growth and widened spectrum of activities, Weapons supporting Research funds continued to be the dominant means of Laboratory support for basic research.

In fiscal year 1982 Donald Kerr combined and expanded the Weapons Supporting Research and New Research Initiatives programs with establishment of the Institutional supporting Research and Development program. This new program incorporated the following principles, many of which required new and extensive plans on the part of everyone involved.

- The program should be Laboratory wide and should include a broad spectrum of research and development related to all Laboratory programs,
- Projects should be consistent with and

## DISTRIBUTION OF ISRD FUNDS IN FISCAL YEAR 1982

Research Category	Allocated Percentage of Total Funds
Materials Science and Chemistry	32%
Program Development and Applied Technology (Energy and Defense)	25%
Mathematics, Techniques, and Computer Modeling	13%
Nuclear Physics and Nuclear Chemistry	11%
Medium and High-Energy Physics	8%
Plasma Physics and Astrophysics	4%
Earth and Space Sciences	4%
Life Sciences	3%

in support of the Laboratory's basic missions.

- Funds should be distributed according to a fair scheme that encourages competitive proposals and ensures optimum investment of resources.
- Support should be derived proportionately from all Laboratory programs,
- Accountability of funds should be reasonable and consistent with normal practice.

The ISRD program has definitely improved the manner in which discretionary research funds are allocated and the status of funded projects is reviewed, Considerable

freedom is exercised by the Laboratory's associate directors in organizing and evaluating projects under their directorates. As is usual with any new program, some shortcomings have been recognized and some evolution is expected. It is evident that, in spite of the healthy challenge of submitting competitive proposals, there have been too many proposals and they have, for the most part, been too long. Paperwork is being reduced, and a system of triennial, rather than annual, review is being developed for some projects.

The accompanying table lists the distribution of ISRD funds among various broad categories in fiscal year 1982.

not just students, but the whole country, informed about what we're doing and can do. One important example in life science research is the new DNA sequence data base being established in the Theoretical Division and funded by the National Institutes of Health. This will be a comprehensive computer-based library of DNA sequences designed specifically as a resource for scientists around the world who are doing recombinant DNA research. Eventually we may be able to produce a computer-based, electronic journal that bypasses conventional publication. Scientists could submit their DNA sequence data for review and receive results in recombinant DNA research electronically.

**SCIENCE:** How do new projects such as the DNA sequence library get started?

**HOWE:** First someone has to have an idea and that usually happens

quite informally. We sit around and talk and suddenly some guy comes up with a neat idea.

**COLGATE:** 'That's right. Some of us don't know one another very intimately. but sooner or later we will meet, I will bump into John and start talking about cryogenic systems for fractional charge separation using superfluid liquid helium as a charge separation drift chamber.

**ROCKWOOD:** Once the idea is hatched, you might try it out with what is called bootlegging. You do the experiment or the calculations at your own discretion, but generally with the knowledge of the group leader, division leader, or whoever else is involved. If the idea shows real promise you may be funded through Institutional Supporting Research and Development [ISRD] money. This is the Laboratory's discretionary fund, It has traditionally been used for basic research,