

GUEST EDITOR'S INTRODUCTION

This is the second issue of the *Johns Hopkins APL Technical Digest* to have as its theme the collaborative efforts of the Applied Physics Laboratory and the Johns Hopkins Medical Institutions to advance biomedicine through the application of physical science and technology. As in the earlier issue (Volume 2, Number 3, 1981), the theme articles are selected to reflect the breadth of the program, in both the subjects addressed and the methodologies employed.

In spite of the deliberate diversity of the articles that follow, there is one feature they do share: all of them describe projects that have occupied the Laboratory for a long time; the youngest is nearly eight years old. These projects are among the more long-standing—and, necessarily, successful—efforts in the collaborative biomedical program.

The article on corneal structure by Farrell *et al.* describes work that is now in its tenth year of support by the National Eye Institute of the National Institutes of Health (NIH). Even earlier studies in this area were carried out under the aegis of an interdisciplinary ophthalmology grant funded at the time by the National Institute of Neurological Diseases and Blindness of NIH. The effort under that grant was subsequently oriented towards neurosensory research and includes among its most recent successes the development of the radiation microprobe described in the article by Bailey and Griffin.

Complementing these major thrusts in ophthalmology and neuroscience has been a sizeable effort in the cardiovascular area. The article on geometric risk factors reports on work begun in a Specialized Center of Research in Arteriosclerosis, initially funded in 1971 by the then National Heart and Lung Institute of NIH. The Laboratory's effort in implantable devices, reviewed in the article by Fischell, grew out of early collaborations with Hopkins physicians to develop a cardiac pacemaker that could last a lifetime on a single rechargeable battery.

The Laboratory's role in clinical information systems is chronicled and illustrated in the article by Blum that concludes the theme section of this issue. Although this effort is drawing to a close after seven years, it is doing so only after having contributed in many ways to the health care delivery process at Johns Hopkins and elsewhere.

As I remarked in the Introduction to Volume 2, Number 3, what follows is only a sampling of the projects that constitute the Laboratory's biomedical program. Interested readers who wish to learn more about our current (or past) activities are referred to a series of annual reports entitled "Biomedical Research, Development, and Engineering at The Johns Hopkins University Applied Physics Laboratory," the most recent of which covers the twelve-month period ending September 30, 1982.

MORTON H. FRIEDMAN