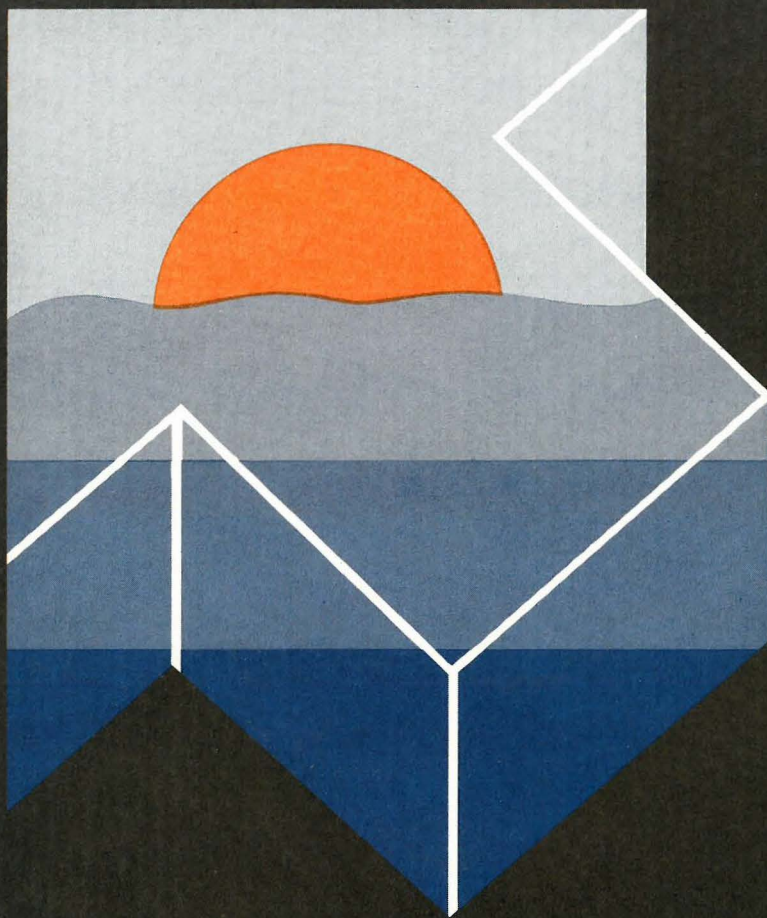


1974 Annual Report



Pharmaceutical Manufacturers  
Association Foundation, Inc.



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This bit of navy jargon accurately describes the course of the Pharmaceutical Manufacturers Association Foundation in 1974. Following adjustments in program priorities in 1971 and the introduction of new programs in 1972 and 1973, this year has principally been a period of consistent progress. The PMA Foundation has avoided undue expansion of existing programs or the introduction of new ones which would have necessitated additional demands on the Foundation's contributors.

However, even within the above guidelines, the PMA Foundation accomplished a great deal in 1974. From more than 200 applicants for various awards available through the Foundation, 37 students, fellows and beginning faculty members were assisted. The largest number of these new awardees were the 25 beginning investigators who received grants to assist them in the development of independent research careers. The others have been assisted in ways which are specifically intended to advance their careers in pharmacology or clinical pharmacology.

Every characterization needs an exception and the nautical analogy above has its. In the important area of financial support, the Foundation did "speed up". The generosity of the contributors to the Foundation reached a new high in 1974. This continuing commitment of the pharmaceutical industry provides the momentum for all of the activities of the Foundation. It is anticipated that the PMA Foundation will continue to be able to be of assistance to the academic community and, specifically, to the scientific disciplines so vital to therapeutic excellence and innovation.

The plotting of the course judged to advance most directly the goals of the Foundation continues to be mutually accomplished by the Board of Directors and the Foundation's four advisory committees. The assistance provided by these scientists from government, academia and industry is in large measure responsible for the success enjoyed by the foundation.

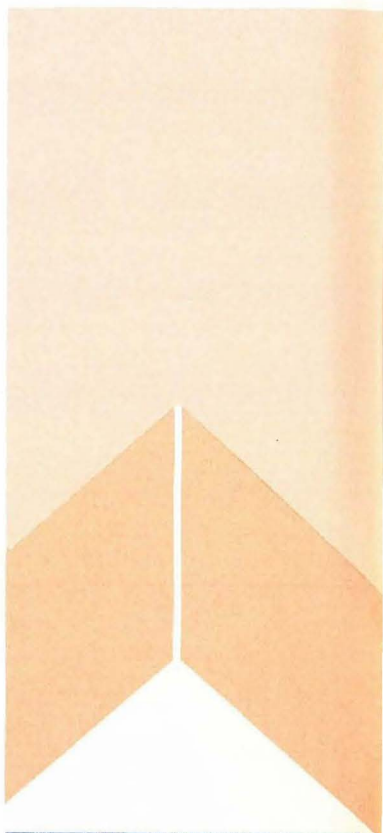
So, while "steady as she goes" connotes the activities of the past year, the Foundation is also planning a course which will call for "full steam ahead" in 1975.

## The Reporting Process

Following the successful pattern of the past few years, the Foundation scheduled a meeting with recipients of awards under various of its postdoctoral educational programs and members of the Foundation's advisory committees on December 3, 1974. The meeting provided the opportunity for those attending the Foundation sessions to meet with members of the PMA Board of Directors.

In his welcoming comments, Daniel C. Searle, Chairman of the PMA Foundation Board of Directors, outlined the consistent pattern of growth experienced by the Foundation. The keynote speaker for the general session was Lawrence M. Lichtenstein, M.D., Associate Professor of Medicine, Clinical Immunology Division, The Johns Hopkins University, who covered the topic "The Pharmacologic Control of Immediate and Delayed Hypersensitivity Reactions".

In separate sessions, the clinical pharmacologists and the fellows in pharmacology-morphology developed their own programs. The clinical pharmacology session was moderated by John A. Oates, M.D., Chairman of the Foundation's Clinical Pharmacology Advisory Committee and Professor of Medicine and Pharmacology, School of Medicine, Vanderbilt University. In this session guest speakers, Dr. Alvan R. Feinstein, Professor of Medicine and Epidemiology, Yale University School of Medicine and Dr. Hubert C. Peltier, Vice President for Medical Affairs, Merck Sharp & Dohme Research Laboratories spoke on the methodology of clinical trials.



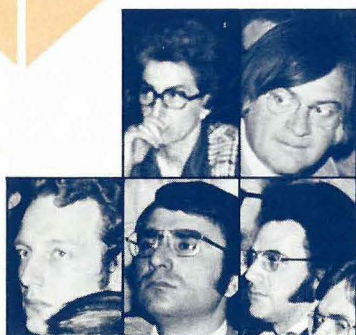




The pharmacology-morphology fellows spent the major part of their time in discussions of how the pharmacologist views and approaches a field of inquiry as compared to the approaches used by the morphologist. Three situations were posed. In each instance Don W. Fawcett, M.D., Chairman of the Pharmacology-Morphology Advisory Committee and Hersey Professor of Anatomy, Department of Anatomy, Harvard Medical School discussed the morphologists' viewpoints. The pharmacologists' viewpoints were represented by three different individuals.

The topics covered and speakers were: Dr. Mark Nickerson, Chairman, Department of Pharmacology, McGill University who spoke on "Study of Cell Membrane and Its Receptors"; Dr. William K. Riker, Professor and Chairman, Department of Pharmacology, University of Oregon Medical School who spoke on "Study of Synapses and Other Cell Junctions"; and Dr. James R. Gillette, Ph.D., Chief, Laboratory of Chemical Pharmacology, National Institutes of Health, National Heart and Lung Institute who discussed the "Induction of Cytoplasmic Membranes and Their Associated Drug Metabolizing Enzymes".

These yearly meetings have provided opportunities to assess how well each program is moving towards achieving its goals. This year's meeting, as in the past, provided new insights into the Foundation's programs. Generally, they appear to be moving very well in terms of identifying qualified individuals who have substantial career goals of continuing along the paths promoted by the various programs.



## Activities

Since its formation in 1965, approximately \$5.4 million has been authorized by the PMA Foundation for a variety of workshops, conferences, research projects and educational programs. Of this amount \$1.8 million has been used to support research and about \$3.2 million to support educational awards. The remaining \$400,000 has provided financial assistance for scientific meetings, along with a small portion for publications.

This year virtually all of the grants and awards made have been within the six programs sponsored by the Foundation on a regular, yearly basis. These include two faculty level programs of salary and fringe benefit support, three fellowship programs—two postdoctoral and one at the medical student level—and a program of research starter grants for the beginning investigator who wishes to move into an area of independent research.

Through these programs, the Foundation in 1974 has been of assistance to 37 individuals; all of whom are being helped at a time crucial to their further career development. Including these, the Foundation has, in its nine years of existence, been able to provide assistance to 305 individuals through its research and educational support programs.

Based on information gathered from some of these 305 individuals, it is clear that the awards have also had a "multiplier effect". A number of faculty awardees have extended the influence of the award by the virtually hundreds of medical students with whom they came into contact. Information from 11 of the first group of research starter grantees (1972) indicated that about \$700,000 of further funding had developed based on the research begun with the Foundation's starter grants. Thus, the initial Foundation investment of \$110,000 helped to generate substantial additional research funding. These are but two examples which are presently being collected.

### Education and Training Programs

To further its objectives in the field of education, the PMA Foundation sponsors three programs in clinical pharmacology, one in the combined field of pharmacology-morphology and one in basic pharmacology. Each program is intended to achieve a specific goal, either in terms of a particular point in an individual's career ladder or in a particular discipline.

*Clinical Pharmacology*—The three clinical pharmacology programs provide educational opportunities at the student, fellow and faculty levels. Through the *Faculty Development Awards in Clinical Pharmacology* program, the Foundation makes two-year awards to medical schools for salary and fringe benefit support of full-time



junior faculty members. The level of support is variable and is in keeping with the existing salary structure of the applicant university. In 1974, the Foundation established a ceiling of \$30,000 on the amount of its participation in the total salary and fringe benefit to be awarded to any candidate.

With the awards scheduled to begin July 1, 1975, a total of 33 individuals have been supported under this program since 1967. These awards are for a two year period. A third year of support is available to those awardees, who at the end of the first year, show sufficient progress and need to warrant it.

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### **Recipients of the two awards to begin July 1, 1975 are:**

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- **NORBERTO T. DE GUZMAN, M.D.**, Assistant Professor of Pharmacology and Medicine, University of Miami. He will direct his efforts to the use of ion-permeability inducing agents (ionophores) as a novel approach for the pharmacological modification of cardiovascular function. These drugs will be used as tools to examine the factors that regulate the contractile state of the myocardium.

Dr. de Guzman will have a minimal amount of duties in the Medical Service of the University at Jackson Memorial Hospital. Also his teaching responsibilities during the time of the award will be slight and will be accomplished during the Medical Service attending responsibilities with medical students, interns and residents and fellows.

- **PERRY V. HALUSHKA, Ph.D., M.D.**, Assistant Professor of Pharmacology and Medicine, Medical University of South Carolina. His principal interests are in studying the effects of diuretic and antihypertensive agents and cardiovascular diseases on the metabolism of prostaglandins.

He will be responsible for teaching clinical pharmacology at the medical student, graduate student, house officer and fellow levels. As Chairman of the Medical University Hospital Pharmacy and Therapeutics Committee, he will also exert a role in the area of his clinical pharmacological expertise.

Dr. Halushka was a recipient of an earlier PMA Foundation award. In 1969 as a senior medical student he received a medical student traineeship in clinical pharmacology, a program designed to interest individuals in careers in the field. This current faculty award attests to the success of the student award.



Norberto T. de Guzman,  
M.D.



Perry V. Halushka,  
Ph.D., M.D.

Other individuals continued to be actively supported under this program in 1974. These include: those whose awards concluded in June; those whose awards entered into the second or third year; and those whose initial year began in July.

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**Those individuals whose awards ended in June, 1974 are:**

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- DAVID S. ALBERTS, M.D., Instructor, Cancer Research Institute, University of California, San Francisco.
- CARLOS A. DUJOVNE, M.D., Assistant Professor of Medicine and Pharmacology, University of Kansas Medical Center.
- JOHN S. KAUFMANN, M.D., Ph.D., Assistant Professor of Medicine and Pharmacology, The Bowman Gray School of Medicine, Wake Forest University.
- ROBERT A. MUELLER, M.D., Ph.D., Associate Professor of Anesthesiology and Assistant Professor of Pharmacology, University of North Carolina, School of Medicine.

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**Those individuals whose awards entered the second or third years in July, 1974 are:**

---

- ROBERT J. ROBERTS, Ph.D., M.D., Associate Professor, Pharmacology and Pediatrics, University of Iowa College of Medicine.
- THOMAS F. ROLEWICZ, M.D., Ph.D., Assistant Professor, Pharmacology and Pediatrics, University of Minnesota Medical School.
- AUGUST M. WATANABE, M.D., Assistant Professor of Medicine and Pharmacology, Indiana University School of Medicine.
- RICHARD M. WEINSHILBOUM, M.D., Assistant Professor, Pharmacology and Internal Medicine, Mayo Medical School.

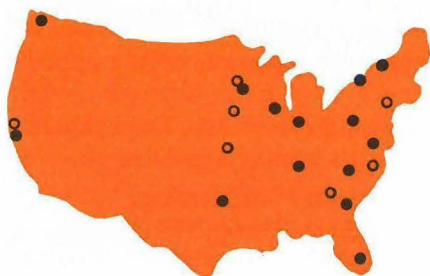
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**Those individuals whose awards began in July, 1974 are:**

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- TERRENCE F. BLASCHKE, M.D., Assistant Professor of Medicine, Stanford University School of Medicine.
- ROBERT L. CAPIZZI, M.D., Assistant Professor of Internal Medicine and Pharmacology, Yale University School of Medicine.
- ELSA-GRACE V. GIARDINA, M.D., Associate in Medicine, College of Physicians and Surgeons, Columbia University.
- RALPH E. KAUFFMAN, M.D., Assistant Professor of Pediatrics and Pharmacology, University of Kansas Medical Center.





Geographical distribution of Foundation awards under its "Faculty Development Awards in Clinical Pharmacology" program, 1967-1975

● One  
○ More than one

The second program in clinical pharmacology is the program of *Fellowships for Careers in Clinical Pharmacology*. This award provides clinicians with an opportunity for intensive study in any of the basic sciences that fall within the general field of pharmacology. The program is open to physicians, dentists and veterinarians who are well into their clinical training and wish to pursue a career in clinical pharmacology. With the year or two of support offered by this fellowship program, depending on the particulars of the undertaking, the individual can pursue full time the basic pharmacologic sciences needed to complement his clinical skills.

The first awards under this program were made in 1973. Since that time six fellowships have been awarded.

#### **The recipient of the one fellowship beginning July 1, 1975 is:**

- DOUGLAS N. WEISMANN, M.D., Fellow, Pediatric Clinical Pharmacology Program, College of Medicine, The University of Iowa. As one of the first trainees in this pediatric clinical pharmacology program, Dr. Weismann will be involved in studies dealing with the effects of various diuretic agents on renal hemodynamics. He will attempt to determine the relationship between the hemodynamic effects and the saluretic effects of agents like ethacrynic acid, furosemide and chlorthiazide. The role of prostaglandins in renal hemodynamics will also be investigated. In all of the studies, developmental aspects will be a major emphasis in the experimental design. The fetal lamb model will be used for monitoring physiological effects on the fetal and neonatal kidney.

The first year of the projected two year program will be spent principally in the Department of Pharmacology. The second year will be devoted to clinical research.



Douglas N. Weismann, M.D.

**Individuals whose fellowships concluded in 1974 or entered their second year of training are the following. Those whose fellowships concluded in 1974 are:**

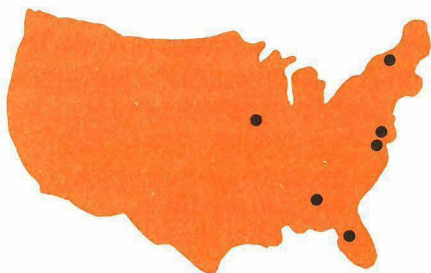
- MICHAEL J. SCOLLINS, M.D., Clinical Assistant Professor of Medicine, The University of Vermont, College of Medicine.
- ANTHONY P. ZAVADIL, M.D., Fellow, Clinical Pharmacology Unit, Georgetown University, School of Medicine and Dentistry.

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**Those who entered the second year of training in 1974 are:**

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- DAVID M. KORNHAUSER, M.D., Research Associate, Department of Pharmacology, Vanderbilt University, School of Medicine.
  - JAMES J. LIPSKY, M.D., Fellow in Clinical Pharmacology, Departments of Internal Medicine and Pharmacology, The Johns Hopkins University, School of Medicine.
  - THOM J. ZIMMERMAN, M.D., Resident in Ophthalmology, University of Florida, College of Medicine.
- 



Geographical distribution of Foundation "Fellowships for Careers in Clinical Pharmacology" program, 1973-1975  
● One

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The third program in clinical pharmacology is the *Medical Student Research Fellowships in Pharmacology-Clinical Pharmacology*. These awards provide students the opportunity to spend one year full-time in an investigative project in pharmacology-clinical pharmacology. To meet the full-time requirement of the program the student must interrupt his formal medical training, but he must also intend to continue his schooling at the conclusion of the fellowship. It is hoped that by having students become deeply involved in investigative projects at a point when career choices are still relatively flexible, that they will opt for a research career in clinical pharmacology.

The PMA Foundation has had a medical student support program since 1968. The earlier program offered three month traineeships to enable students to become acquainted with the techniques used in clinical pharmacology.

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**The current year long program made its first awards in 1974. The four students who received these fellowships which began July 1, 1974 are:**

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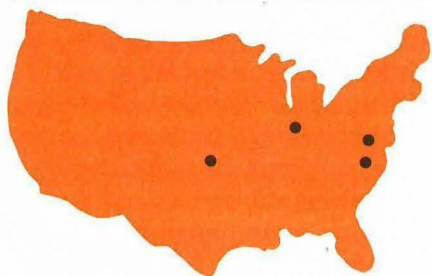
- DARRELL R. ABERNETHY, who entered the University of Kansas Medical School in 1971. His principal supervisor during the fellowship is Dr. Daniel L. Azarnoff, Distinguished Professor of Medicine and Pharmacology. During the year, Mr. Abernethy will examine in more detail a proposition on which preliminary information has already been provided, namely, that drugs can induce microsomal enzymes which are involved in cholesterol biosynthesis.



- ALAN S. HOLLISTER, who entered the University of North Carolina School of Medicine in 1970. His principal supervisor during the fellowship is Dr. George R. Breese, Associate Professor of Psychiatry and Pharmacology. During the year, Mr. Hollister will investigate central monoamine mechanisms and their role in behavioral, pharmacological and physiological responses. The project will particularly examine the possible interactions of the biogenic amines in cooperation, modulation or antagonism of drugs and behavior. The roles of brain catecholaminergic and serotonergic systems in motor activity, stereotyped behavior and sympathetic outflow will be investigated.

- RONALD J. LONG, who entered the Indiana University School of Medicine in 1972. Dr. Roger P. Maickel, Professor of Pharmacology, is his principal supervisor during the fellowship. His research effort will investigate the role which hypothalamic monoamines play in the control of the secretion of luteinizing hormone releasing hormone (LHRH). This will be accomplished by administering drugs which appreciably alter hypothalamic monoamine levels, and studying the comparative time courses of changes in concentrations of these monoamines in the hypothalamus with those of LHRH in the hypothalamus and blood.

- THOMAS W. SADLER, who entered the University of Virginia School of Medicine in 1971. His principal supervisor during the fellowship is Dr. D. Kochhar, Associate Professor of Anatomy. The research project to be undertaken during the fellowship will attempt to: establish the mode of action of chlorambucil, difunctional alkylating agent, as a teratogenic drug; determine the biochemical mechanism for the process of selective cell death; and relate the phenomenon of cell death to the occurrence of malformations in the developing embryo.



Geographical distribution of Foundation "Medical Student Research Fellowships in Pharmacology-Clinical Pharmacology" program, 1974 (initial year)

● One

*Basic Pharmacology*—The purpose of the *Faculty Development Awards in Pharmacology* is to strengthen basic pharmacology by helping maintain the present academic capability and, ultimately, to expand this capability by enlarging the faculty base. To accomplish these goals, support is provided to full-time junior faculty members committed to careers in pharmacology who give promise of outstanding accomplishments. Implicit in the decision to offer this faculty program is the recognition that the future development of

clinical pharmacology depends on the impetus and scientific principles provided by the basic discipline.

The first awards, which are for a two-year period, were made in 1973. The awards provide salary and fringe benefits, at levels which are expected to be in accord with the existing amounts within the applicant university. The total number of awards made to date is eight.

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**Those who received awards beginning July 1, 1975 are:**

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Claire M. Lathers,  
Ph.D.

- **CLAIRE M. LATHERS, Ph.D.**, Instructor, Department of Pharmacology, Medical College of Pennsylvania. Dr. Lathers will continue to develop and expand her expertise in the areas of research which examine the nervous system and its control over cardiac rhythm. Computer techniques will be employed to study the relationship between cardiac rhythm and patterns of activity in the efferent fibers of adrenergic nerves innervating the heart and the adrenal medulla. This will involve measuring electrical activity of the heart during various phases of the development and persistence of cardiac arrhythmia and its association with electrical events in the adrenergic nerves. In addition, Dr. Lathers will participate in projects concerned with examining new cardiovascular and beta adrenergic blocking agents in patients. These studies will be conducted in the clinical pharmacology research unit of the medical school. Thus, her programs will encompass the study of drugs from the single cell to an intact animal preparation and to the clinical level. While these research activities will consume the major part of her time, she will also teach pharmacology to medical and graduate students.



Carl L. Johnson,  
Ph.D.

- **CARL L. JOHNSON, Ph.D.**, Assistant Professor, Mount Sinai School of Medicine (New York). His major research interest is in the use of empirical and theoretical physical-chemical properties in quantitative structure-activity relationships. By use of these physical chemical and quantum mechanical methods he will study the receptors for LSD and 5-hydroxytryptamine in brain and peripheral tissue, with the aim of learning about the molecular forces underlying the reaction between these substances and their receptors. He will have a minimal teaching commitment during the award. Lectures will be given by Dr. Johnson in the field of molecular pharmacology.

Other individuals continued to be actively supported during 1974. These are the individuals who began the second year of the faculty award in 1974 and those whose faculty awards began in July, 1974.



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**Those who began the second year of their awards in July are:**

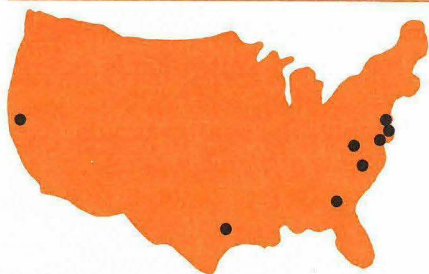
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- KENNETH L. DRETCHEN, Ph.D., Instructor of Pharmacology, Georgetown University, School of Medicine and Dentistry.
  - ROBERT I. GLAZER, Ph.D., Assistant Professor of Pharmacology, Emory University, Woodruff Medical Center.
  - THEODORE A. SLOTKIN, Ph.D., Assistant Professor, Department of Physiology and Pharmacology, Duke University Medical Center.
- 

**Those whose faculty awards began in 1974 are:**

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- ING KANG HO, Ph.D., Adjunct Assistant Professor, Department of Pharmacology, University of California, School of Medicine, San Francisco. He will be transferring the award to the University of Mississippi in July, 1975 where he has accepted a position in the Department of Pharmacology.
  - MICHAEL G. MAWHINNEY, Ph.D., Assistant Professor of Pharmacology and Urology, West Virginia University, School of Medicine.
  - SAMUEL J. STRADA, Ph.D., Assistant Professor of Pharmacology, University of Texas, Medical School, Houston.
- 



Geographical distribution of Foundation "Faculty Development Awards in Pharmacology" program, 1973-1975

● One

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*Pharmacology-Morphology*—The aim of the program of *Fellowship Awards in Pharmacology-Morphology* is to advance understanding of drug action through the discovery of specifically related cellular and tissue changes; and, concurrently, to uncover associations between normal and abnormal function in particular tissues and cellular structure.

The awards are for two years each and, in exceptional circumstances, may be extended for an additional year. The level of support is variable and is aimed at keeping within the existing stipend levels for similarly trained individuals within the applicant university. Since 1968 when the first fellowships were offered, 27 awards have been made.

The program requires that a candidate be qualified primarily either in a morphologic specialty or in pharmacology. However, training to be achieved under the fellowship in the complementary

discipline need not be formal. The candidate's program should result in a familiarity with a new disciplinary approach by using his primary discipline as a medium for acquiring the second.

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**The recipients of fellowships which began in 1974 are:**

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John I. Clark,  
Ph.D.

- **JOHN I. CLARK, Ph.D.**, Postdoctoral Fellow, Department of Anatomy, Harvard Medical School. In Dr. Clark's studies of microtubule systems, he will attempt to synthesize active fluorescent and electron dense derivatives of colchicine to quantitatively determine the distribution of colchicine binding in living cells by fluorescence microscopy, and to demonstrate colchicine binding to specific subcellular organelles observable in the electron microscope. Crystallographic studies of the active and inactive derivatives of colchicine should make it possible to infer the molecular geometry of the receptor site.



Janet D. Smith,  
Ph.D.

- **JANET D. SMITH, Ph.D.**, Instructor, Department of Anatomy, the Medical College of Pennsylvania. Dr. Smith is involved in studies of the effect of iododeoxyuridine pretreatment of tissue culture cells on the subsequent morphogenesis of human cytomegalovirus (CMV) in these cells. By use of electron microscopy, the nature and timing of CMV morphogenesis in various treated systems will be studied and compared with available biochemical data, and the situation in untreated cells. Special attention is on the processes of viral penetration and uncoating, and on the question of the efficiency of viral assembly. The studies should allow a determination of some of the points at which natural inhibition acts, and give insight into how the replication of this potentially destructive human pathogen may be manipulated.



Gloria E. Hoffman,  
Ph.D.

- **GLORIA E. HOFFMAN, Ph.D.**, Postdoctoral Fellow, Department of Anatomy University of Rochester, School of Medicine and Dentistry. During her fellowship, Dr. Hoffman's primary training will be in the use of a histochemical fluorescence technique to localize biogenic amines within the central nervous system. She will attempt to couple this technique with a new histochemical method for demonstrating releasing hormones within neurons of the hypothalamus. In addition, she will be able to expand her project and training to include electron microscopy, releasing hormone assay, quantitative computer analysis of morphological units, and organ culture.



**Those individuals who entered the second year of their fellowships in 1974 are:**

- STEVEN B. MIZEL, Ph.D., Postdoctoral Fellow, Department of Biochemistry, Colorado State University, Fort Collins, during the first 15 months of the award. He is finishing the fellowship at The Weizmann Institute of Science in Israel.
- NANCY J. RUSSELL, Ph.D., Research Associate, Department of Pharmacology, University of Oregon Medical School, Portland.
- NORMAN R. WEST, Ph.D., Postdoctoral Fellow in Anatomy, Washington University, School of Medicine, St. Louis.

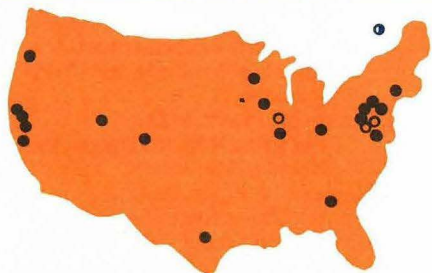


Geographical distribution of Foundation "Fellowship Awards in Pharmacology-Morphology", 1968-1974

- One
- More than one

## Research Grants

An important aspect of the PMA Foundation efforts has been the support of fundamental research in drug toxicology. Between 1966 and the end of 1971, 26 research grants of relatively large amounts for two to five years were awarded, principally to established investigators to either extend existing research or to provide "seed" monies to follow a promising lead. In 1971 a change in emphasis within the Foundation's programs shifted the bulk of the funds into educational support programs, and, therefore, less into research. The Foundation does, however, continue to accept requests for support and suggestions for pertinent research projects, since it is important that the potential for helping that particularly promising effort within the interests of the Foundation be maintained.



Geographical distribution of Foundation general research grants, 1966-1974

- One
- More than one
- ⊙ Outside U. S.

## Research Starter Grants

As part of the change of emphasis in 1971 which sought to direct monies more towards the development of the individual, a program of Research Starter Grants was initiated. These grants are intended to provide financial support for beginning investigators. The program offers a \$5,000 a year for two years, with the second year contingent upon a continuing need for the funds. The research areas of interest within this program are in the fields of pharmacology, clinical pharmacology and drug toxicology. The program allows for approximately 20 research grants each year. The first awards were made in 1972.

The program is designed to assist investigators starting independent research efforts; motivated by the belief that a very real need exists among beginning investigators for "starter" funds. Experiences recorded during the first four years of the program have proved this to be the case.

A total of 91 research starter grants have been made, including the 25 awards beginning January 1, 1975. These have gone to schools of pharmacy, schools of medicine and veterinary schools in all parts of the United States.

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### The recipients of the starter grants awarded beginning January 1, 1975 are:

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SHAILESH P. BANERJEE, Ph.D.,  
The University of Rochester,  
School of Medicine and Dentistry

STEVEN I. BASKIN, Ph.D.,  
The Medical College of  
Pennsylvania, Medical School

JAMES L. BENNETT, Ph.D.,  
Michigan State University,  
Colleges of Human, Osteopathic  
and Veterinary Medicine

JOHN P. BILEZIKIAN, M.D.,  
Columbia University, College of  
Physicians and Surgeons

LARRY A. BRUCE, Ph.D.,  
The University of Texas,  
Southwestern Medical School  
(Dallas)

SHARON K. CHAPMAN, Ph.D.,  
University of Florida, School of  
Medicine

JONATHAN B. COHEN, Ph.D.,  
Harvard Medical School

BAHJAT A. FARAJ, Ph.D.,  
Emory University, School of  
Medicine

SUSHIL K. GOMER, Ph.D.,  
University of Minnesota, College  
of Veterinary Medicine

GARRETT J. GROSS, Ph.D.,  
The Medical College of Wisconsin

HENRY J. HAIGLER, Ph.D.,  
Emory University, School of  
Medicine

IRA D. HIRSCHHORN, Ph.D.,  
New York Medical College

IH-CHANG HSU, Ph.D.,  
University of Wisconsin, Medical  
School

HERBERT E. LOWNDES, Ph.D.,  
College of Medicine and  
Dentistry of New Jersey, New  
Jersey Medical School

WILLIAM E. MITCH, M.D.,  
The Johns Hopkins University,  
School of Medicine

MICHAEL D. MIYAMOTO, Ph.D.,  
University of Connecticut,  
Schools of Medicine and Dental  
Medicine

MARSHALL PLAUT, M.D.,  
The Johns Hopkins University,  
School of Medicine

NORMAN W. ROBIE, Ph.D.,  
The University of Texas,  
Medical School (San Antonio)



DAVID H. ROSS, Ph.D.,  
The University of Texas,  
Medical School (San Antonio)

ARNOLD E. RUOHO, Ph.D.,  
University of Wisconsin,  
Medical School

JOEL D. SCHIFF, Ph.D.,  
New York University  
College of Dentistry

EUGENE P. SCHOENER, Ph.D.,  
Wayne State University,  
School of Medicine

JAMES T. STULL, JR.,  
University of California,  
School of Medicine (San Diego)

WILLIAM F. WOODSIDE, Ph.D.,  
The University of New Mexico,  
School of Medicine

RUSSELL K. YAMAZAKI, Ph.D.,  
University of Virginia,  
School of Medicine

Review of the need of the 23 research starter grantees whose awards began January 1, 1974 for a second year of the awards resulted in 12 of them having their awards continued. These are:

HAROLD L. ALTSHULER, Ph.D.,  
Baylor College of Medicine

JOHN W. DAILEY, Ph.D.,  
The George Washington University,  
School of Medicine

H. FREDERICK DALSKE, Ph.D.,  
The University of Nebraska,  
College of Medicine

LAURENCE M. DEMERS, Ph.D.,  
The Pennsylvania State University,  
College of Medicine

VINCENT W. DENNIS, M.D.,  
Duke University,  
School of Medicine

KENNETH L. DRETCHEN, Ph.D.,  
Georgetown University,  
Schools of Medicine and Dentistry

GARY E. ISOM, Ph.D.,  
Idaho State University,  
College of Pharmacy

MICHAEL C. KOSS, Ph.D.,  
The University of Oklahoma,  
College of Medicine

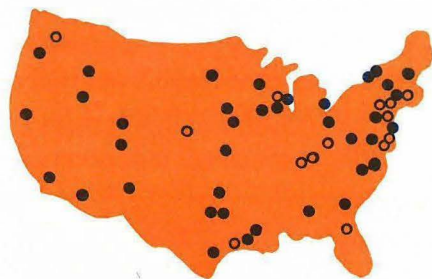
RICHARD J. MORROW, Ph.D.,  
Drake University,  
College of Pharmacy

MARK A. PEPPERCORN, M.D.,  
Harvard Medical School

RICHARD E. PETERSON, Ph.D.,  
The Medical College of Wisconsin

JACK W. STRANDHOY, Ph.D.,  
The Bowman Gray School of  
Medicine of Wake Forest  
University

Wake Forest University  
The Bowman Gray School  
of Medicine



Geographical distribution of  
Foundation awards under the  
"Research Starter Grants"  
program, 1972-1975

● One  
○ More than one

## Foundation Finances

The Board of Directors of the PMA Foundation decided at the outset of the Foundation's activities that, as a minimum, total annual contributions of \$500,000 would be sought, with larger amounts anticipated thereafter. In 1973 the Board of Directors increased the contribution goal to \$750,000. In requests for voluntary support to PMA Member Firms, a guideline is suggested, an amount equal to .015% of the firm's domestic and international pharmaceutical sales.

**Income.** The total income in 1974 was \$849,206. Of this amount \$782,600 came from contributions. The balance of \$66,606 came from investments and refunds on unexpended balances from grants.

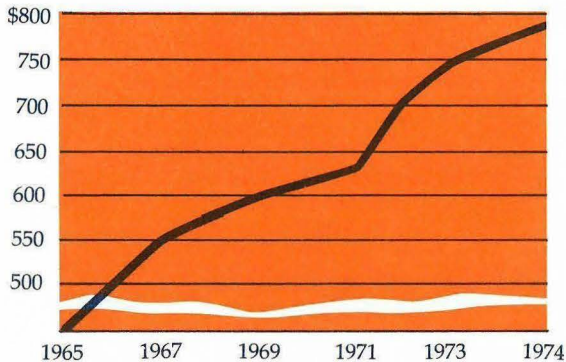
Contributions were received from approximately three of every four PMA Member Firms. Contributions were also received during 1974 from individuals and other groups in the health field.

**Expenditures.** Grants, Foundation-sponsored programs and other expenses for 1974 amount to \$808,018. Of this amount \$667,837 represented expenditures for grants and Foundation-sponsored programs. There was a fund balance of \$1,124,381 as of December 31, 1974. This figure, however, does not reflect the tentatively authorized, undisbursed funds for some of the grants and programs described earlier. The Foundation reports these amounts as expenditures when the funds are distributed. As of December 31, 1974, the contingency liability for 1975 amounts to approximately \$644,000.

**Financial Reports.** The Foundation's financial position as of December 31, 1974 has been audited by the accounting firm of Ernst & Ernst. Copies of this statement will be supplied upon request.

Financial statements have been issued to contributors quarterly during 1974. These reports are prepared by the Washington, D. C. accounting firm of Buchanan & Company.

**PMA Foundation  
Contribution Income  
1965-1974 (Thousands)**





**Statement of Income and Expenditures**  
**For the year ended December 31, 1974**

**Income**

|                               |            |
|-------------------------------|------------|
| Contributions—Note a .....    | \$ 782,600 |
| Income from Investments ..... | 61,740     |
| Miscellaneous Income .....    | 4,866      |
| TOTAL INCOME .....            | \$ 849,206 |

**Expenditures**

**Grants—Note b**

|  |             |
|--|-------------|
| Clinical Pharmacology Faculty Awards .....                     | \$ 254,911  |
| Clinical Pharmacology Fellowship Program .....                 | 31,500      |
| Basic Pharmacology Faculty Awards .....                        | 85,518      |
| Medical Student Traineeships in Clinical<br>Pharmacology ..... | 1,000       |
| Medical Student Research Fellowships .....                     | 19,500      |
| Pharmacology-Morphology Fellowships .....                      | 75,408      |
| Research Starter Grants .....                                  | 200,000     |
|  | \$ 667,837  |
| Administrative expenses .....                                  | 103,239     |
| Loss on sale of stock .....                                    | 36,942      |
| TOTAL EXPENDITURES .....                                       | \$ 808,018  |
| Excess of income over expenditures .....                       | \$ 41,188   |
| Fund balance at January 1, 1974 .....                          | \$1,083,193 |
| Fund balance at December 31, 1974 .....                        | \$1,124,381 |

**Note a**—The Foundation received contributions of \$68,450 prior to December 31, 1974 which the Foundation considered applicable to 1975 and, therefore, are not recorded as income in 1974.

**Note b**—In addition to the amounts shown, the Foundation has committed itself, subject to review, to make certain grants. At December 31, 1974 the amounts still to be disbursed with respect to these grants during 1975 amount to approximately \$644,000.

## Purpose

The PMA Foundation was established to promote the betterment of public health through scientific and medical research, with particular reference to the study and development of the science of therapeutics. In achieving this goal, The Foundation plans and initiates scientific and medical research activities, collects and disseminates the results of these activities, and provides financial support and aid to individuals or institutions whose purposes are scientific, educational or charitable.

Certain guidelines have been developed to promote the wise and proper use of the limited resources available. The areas of interest agreed to initially, and which still govern the distribution of funds, are support of fundamental research in drug toxicology, and the support of programs of research and training for personnel in clinical pharmacology and drug evaluation.

Throughout the year, programs have been supported and developed which provide the means of achieving the goals of the Foundation. Many worthwhile proposals have been submitted. It has been necessary to limit support to those which hold the highest promise of advancing the purposes of the Foundation.

Those areas not supported within the existing guidelines are:

(1) Research on specific drugs. This exclusion is not meant to preclude support of projects which, of necessity, use a number of drugs to establish a methodology or screening program of potential general applicability. It does exclude those efforts primarily aimed at learning more about specific drugs or classes of drugs.

(2) Funds for construction. The Foundation is not unmindful of the needs and the tremendous pressures for private funds for construction projects. However, it is believed that the scientific community can be better served by channeling the Foundation's available resources into other areas.

(3) Funds for travel.

(4) Funds to cover entertainment costs.

In 1971, the Board of Directors authorized a major shift in program emphasis. While Foundation support of research continues, such support is to be primarily available in a redirected fashion, such as the Research Starter Grants program discussed on page 14.

In line with this change of emphasis, the Foundation is expanding support within its current educational programs as outlined in the Education and Training Programs Section on page 4. **While meetings have never received a large portion of the support dollar, only in very exceptional circumstances will meetings receive support in the future.**



The PMA Foundation operates through a Board of Directors and four advisory committees. The Chairman of the Board is Daniel C. Searle, Chairman of the Executive Committee and Chief Executive Officer, G. D. Searle & Co., C. Joseph Stetler is President and Thomas E. Hanrahan is Executive Director. In July, 1974 Mr. Searle was reelected Chairman of the Board. Robert B. Clark, President, Hoffmann-La Roche Inc. was reelected Vice Chairman and Donald van Roden, President, Smith Kline & French Laboratories was reelected Secretary, Treasurer.

In reaching decisions on the most worthwhile activities for support, the Board of Directors has had the advice of extremely knowledgeable individuals serving on four advisory committees.

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<sup>13</sup> Resigned October, 1974

<sup>14</sup> New member December, 1974



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# Applications

**T**he Foundation accepts requests for support and suggestions for pertinent research projects from qualified institutions and individuals. However, in 1971 the Foundation underwent a major shift in program direction, now emphasizing education and training support.

To expedite the handling of requests for research support, it is suggested that a brief one or two page letter be directed to the Foundation, outlining the intended project and an estimate of the funds involved. After review of this more informal request by members of the Scientific Advisory Committee to determine the degree of likelihood of the project falling within Foundation guidelines, a decision can be made as to whether a formal proposal is warranted.

**Letters should be addressed to:**

**Thomas E. Hanrahan  
Executive Director  
Pharmaceutical Manufacturers  
Association Foundation, Inc.  
1155 Fifteenth Street, N.W.  
Washington, D. C. 20005**

Pharmaceutical Manufacturers  
Association Foundation, Inc.  
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