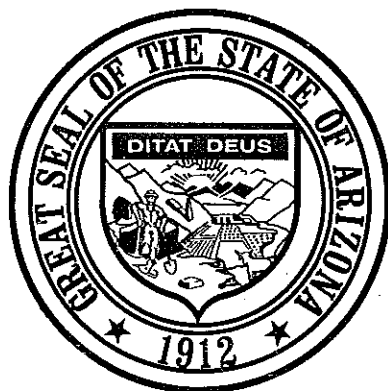


ARIZONA DISEASE CONTROL RESEARCH COMMISSION



ANNUAL REPORT

FISCAL YEAR 1987-88

EXECUTIVE SUMMARY

Established by the Arizona Legislature in 1984, the Arizona Disease Control Research Commission is a state-funded organization which provides funds in support of research in the causes, epidemiology, diagnosis, treatment, and prevention of diseases affecting Arizonans. This Commission is unique in the United States in its commitment of public funds to a broad spectrum of medical research.

Funds are appropriated annually from the Disease Control Research Fund established by Arizona Revised Statute 36-274, Subsection C. In addition, the Commission may accept gifts, grants, and bequests of funds from individuals, foundations, corporations, government agencies, and other organizations.

Proposals to the Disease Control Research Commission are made in response to a Request for Competitive Sealed Proposals (RFP). Contract awards can be made with individuals, organizations, corporations and institutes, public or private, in the State of Arizona for any projects or services that advance medical research.

Decisions on those research projects to be funded are made by the ten member Commission. All requests for awards are first reviewed by a distinguished panel of both scientific and medical experts in the respective disease category. These peer reviews are presented to the Commission members for final decisions.

1987 Summary

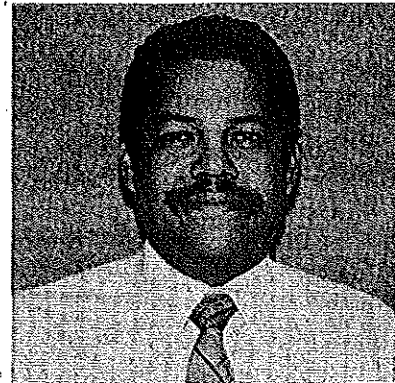
| Category | Total Applications | Total Funded |
|--|--------------------|--------------|
| Cardiovascular and Other Circulator Diseases | 18 | 3 |
| Health Effects of Environmental Pollutants | 5 | 2 |
| Health Promotion/Disease Prevention | 18 | 5 |
| Infectious and Immunologic | 16 | 2 |
| Malignant Neoplasms | 19 | 5 |
| Metabolic/Endocrine | 15 | 4 |
| Neurologic, Mental, and Behavioral Diseases | 9 | 3 |
| Respiratory Disease | 4 | 1 |
| TOTAL | 104 | 25 |

MEMBERS

The Governor appoints nine members to serve on the Commission. Three members represent the medical community, three represent the scientific research community and three represent the general public. Members are appointed for a three year term. The Director of the Department of Health Services serves as an ex-officio member and Chair of the Commission.

The Commission's membership is:

TED WILLIAMS, J.D.
Director
Arizona Department of Health Services
1740 West Adams
Phoenix, Arizona 85007



Ted Williams was appointed the Director of the Arizona Department of Health Services in January 1987. Mr. Williams has an extensive history in State Government. He formerly served as the deputy director of the Department of Health Services, deputy director of the Arizona Department of Transportation, as well as a consultant to the Arizona Legislature. Just previous to his appointment as Director, he serviced as the Executive Vice President with Baptist Hospitals and Health Systems.

Mr. Williams has chaired the Commission since his appointment as Department Director.

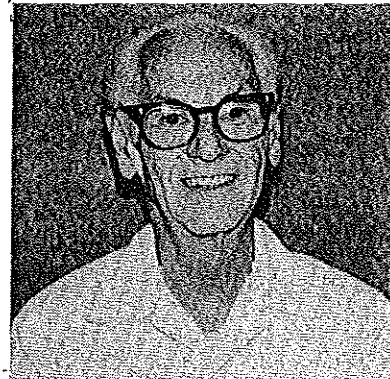
ROBERT BROOKS, M.D.
St. Joseph's Hospital and Medical Center
350 W. Thomas Road
Phoenix, Arizona 85013



Dr. Brooks is currently Chairman of the Department of Pathology at St. Joseph's Hospital and Medical Center in Phoenix, Arizona. He is also a practicing pathologist at St. Joseph's and Boswell Memorial Hospital in Sun City, Arizona.

Dr. Brooks was appointed to the Commission in March 1985 to serve as a representative of the medical community.

HERBERT ABRAMS, M.D.
College of Medicine
Department of Family and Community Medicine
The University of Arizona
Tucson, Arizona 85724



Dr. Abrams was founder and head of the Department of Family and Community Medicine, University of Arizona, College of Medicine, from 1968 to 1978. From 1978 to 1983, he was founder and head of the Arizona Center for Occupational Safety and Health. He is currently a Professor of Family and Community Medicine at the University of Arizona. Dr. Abrams has been a resident of Arizona for twenty years.

Dr. Abrams was re-appointed to the Commission in January 1987 representing the Medical Community.

LOUIS NEWTON, M.D.
Edwards Medical Plaza
1300 N. 12th Street, Suite #612
Phoenix, Arizona 85006



Dr. Newton is a physician in the private practice of medical oncology and a long-time resident of Arizona. In addition to his practice responsibilities, he has served as Director of the Division of Oncology and Chief of Staff at Good Samaritan Medical Center. He has served as President and Chairman of the Arizona Division of the American Cancer Society.

Dr. Newton was appointed to represent the Medical Community in March 1985 and re-appointed in January 1986.

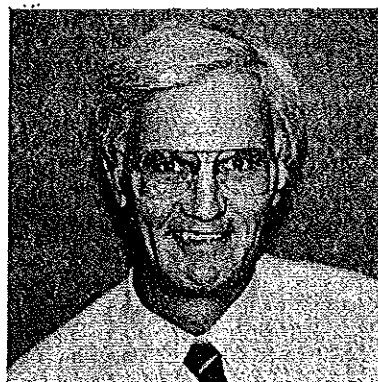
MARY HENDRIX, Ph.D.
Department of Anatomy
University of Arizona
Tucson, Arizona 85724



Dr. Hendrix received her Ph.D. in Anatomy from the George Washington University in Washington, D.C.. She is currently an Associate Professor at the University of Arizona, College of Medicine, Department of Anatomy. She also serves as an Adjunct Researcher in the Department of Pathology at the University of California, San Francisco, School of Medicine. She has been a resident of Arizona for seven years.

Dr. Hendrix serves on the Commission as a representative of the Scientific Research community. She was appointed in March 1985.

ROBERT GILSDORF, M.D.
1010 E. McDowell Road
Suite 400
Phoenix, Arizona 85006

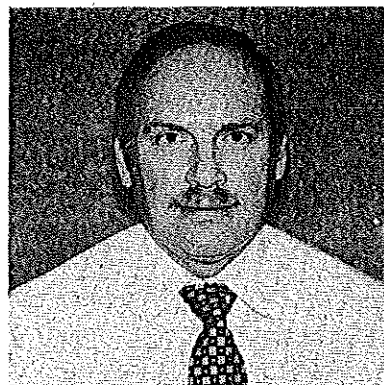


Dr. Gilsdorf is one of the newest members of the Disease Control Research Commission. He is Director of Integrated Medical Specialties, a private multispecialty clinic specializing in the treatment of catastrophic illnesses. He is also a Clinical Professor of Surgery at the University of Arizona. He has been a resident of Arizona for 14 years.

Dr. Gilsdorf was appointed to the Commission in January 1987 to serve as a representative of the Scientific Research community.

JOHN P. SCHAEFER, Ph.D.

Research Corporation, Research Corporation Technologies
6840 E. Broadway Blvd.
Tucson, Arizona 85710



Dr. Schaefer is the President of Research Corporation and Research Corporation Technologies, a private foundation located in Tucson, Arizona which conducts education and research activities. Previously, Dr. Schaefer served as the President of the University of Arizona from 1971 to 1982. He has resided in Arizona for 28 years.

Dr. Schaefer has served as a representative of the Scientific Research Community since his appointment to the Commission in January 1986.

ISABEL FATHAUER

1915 E. Camino Miravel
Tucson, Arizona 85718



Mrs. Fathauer serves as a member representing the general public. She was born in Bisbee, Arizona and has lived in Tucson, Arizona for the past 41 years. She had previously served as Chairperson of the Tucson Historical Sites Committee. She also has a number of other board memberships and civic appointments to her credit including President of Tucson Symphony Women, St. Luke's Board of Visitors, St. Luke's in the Desert, Inc. and the Tucson Regional Plan committee.

Mrs. Fathauer has been a member of the Commission since March 1985.

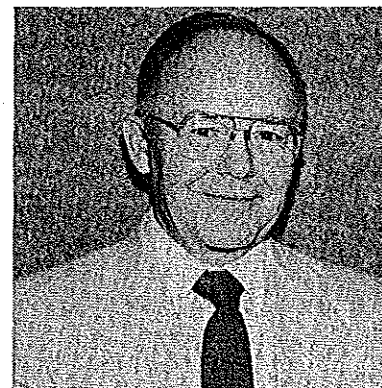
MAXINE MARSHALL
The Marshall Fund
4000 North Scottsdale Road
Suite 203
Scottsdale, Arizona 85251



Mrs. Marshall has been a resident of Arizona for 25 years. In fulfilling her long-time interest in promoting quality health care, she also serves as a member of the Phoenix Advisory Board of the University of Arizona Cancer Center and has previously participated on the Pritzlaff Commission on Long Term Care for Arizona. She was formerly Associate Publisher of the Scottsdale Daily Progress newspaper. She currently devotes herself full-time to The Marshall Fund, a non-profit private foundation.

Mrs. Marshall was appointed to the Commission in January 1986 and serves as a representative of the General Public.

JAY ROBERTSON
1002 E. Myrtle
Phoenix, Arizona 85020



Mr. Robertson has lived in Arizona since 1961. He is a retired Project Manager from Honeywell Information Systems. Prior to his position at Honeywell, Mr. Robertson was an engineer with General Electric Company for 25 years. He brings to the Commission a wealth of experience in reviewing grant applications.

Mr. Robertson has been a member of the Commission since January 1987, representing the General Public.

Activities of the Commission - 1987

January - March 1987

The first quarter of 1987 was marked with several significant changes in the make-up of the Commission. Mr. Ted Williams was appointed as the new Director of the Arizona Department of Health Services on January 12. In his capacity as Director, he also serves as an ex-officio member and Chair of the Research Commission.

The appointments of Peter Baird, J.D. and Susan Wycoff, Ph.D. terminated in January. Mr. Jay W. Robertson and Robert B. Gilsdorf, M.D. were appointed to the Commission in February to fill the two vacant positions. Mr. Robertson will serve as a representative for the lay community and Dr. Gilsdorf will serve as a representative of the scientific/research community.

In March, Linda Udall, Executive Assistant to the Commission, submitted her resignation to be effective May 14, 1987. The commissioners formed a subcommittee consisting of the Phoenix resident members to conduct the interviews of potential candidates, with Mr. Williams leading the interview sessions.

Research applications in response to the Request for Competitive Sealed Proposals #071 for Fiscal Year 1987-88 were received by the due date of January 29. The eight priority areas under which applications were received are: Cardiovascular and Other Circulatory Diseases/Disorders; Health Effects of Environmental Pollutants; Health Promotion and Disease Prevention; Infectious and Immunologic Diseases/Disorders; Malignant neoplasms; Metabolic and Endocrine Disorders; Malignant Neoplasms; Metabolic and Endocrine Disorders; Neurologic, Mental, and Behavioral Diseases/Disorders; and Respiratory Disease. 104 applications were submitted. Subsequently, the applications were sent out for peer review. Every effort was made to get three reviews on each application, although in the case of "unique" proposals only two reviews were possible. The peer reviewers were asked to review and score the proposals based on the following criteria:

- A. Scientific merit, including study design, methodology, feasibility, uniqueness, and evaluative content.
- B. Productivity and ability of the investigator(s) in the project to perform the research, as indicated by their knowledge and experience.
- C. Adequacy of facilities and staff, including personnel and equipment capable of supporting the proposed research.
- D. Appropriateness of budget request.

The peer reviewers were asked to score the applications on a subjective evaluation of one to five, one being excellent and five being poor. Peer reviews were due back to the Commission by March 23.

April - June 1987

The second quarter of 1987 was occupied primarily with the **review and decision-making by the Commissioners** on the research applications submitted in January. Applications with their respective peer reviews were distributed to each of three subcommittees of the Commission membership in early April. Each subcommittee consisted of one member from each of the three constituency groups: medical, scientific and lay. Each subcommittee received approximately 23 proposals to review and rank.

The Commissioners were asked to review and score the applications based on the following criteria:

- A. The investigator's ability to describe the proposed research in clear, concise, non-scientific ("lay") language.
- B. Scientific merit, including study design, methodology, feasibility, uniqueness, and evaluative content
- C. Offeror's financial stability
- D. Adequacy of facilities and staff, including personnel and equipment capable of supporting the proposed research.
- E. Relevance of the project to the State of Arizona and the health of its residents.
- F. Appropriateness of proposed budget request.

The Commission met on May 7 to make its final award decisions. The amount of money available to fund new research projects was \$861,300. Final decisions regarding funding were based on lengthy discussions by the Commissioners with respect to the merit of each project, the comments and scores given by peer reviewers and the amount of money requested. For larger projects, the Commissioners agreed to modify the award amounts by approximately one third. At the conclusion of this meeting, the Commission had awarded 25 new projects to receive funding July 1. For the first time in awarding contracts, the Commission also stipulated the budget amounts for subsequent years for those projects funded for more than one year.

Awards, both new and continuing, were made in each of the eight disease categories, with the majority of awards in the Malignant Neoplasms (Cancer) category. As expected by the proportion of applications submitted, the majority of the applications funded were from the state universities.

The balance of the quarter was occupied with the notification of investigators as to the award or denial status of their applications and the subsequent preparation of contracts for each individual project to commence July 1, 1987.

July - September 1987

The third quarter of 1987 is highlighted by the timely execution of contracts for fiscal year 1987-88. The majority of the contracts were initiated within the first two weeks of July. Two contracts which had been awarded were returned to the Commission totaling \$53,000. One investigator received a greater amount of funds from the Flinn Foundation for the same proposal and therefore elected to return the funds awarded by the Commission. The other investigator received notice of appointment of a one year sabbatical, making him unable to oversee his research project.

Several changes and/or amendments were made in the contracts for fiscal year 87-88 by approval of the Commission membership.

1. Contractors will be advanced the first and second quarter of the contract amount when the contract becomes effective. The remainder of the contract amount will be advanced quarterly thereafter. In order to receive these quarterly payments, the Contractor will submit an invoice to the Commission requesting payment of one-quarter of the total contract amount. Previously Contractors received their contract amount in quarterly increments. By advancing half of the funds on the effective date of the contract, Contractors are able to hire staff and purchase large and expensive pieces of equipment without depleting other resources.

2. Contractor shall submit to the Commission four expenditure reports. The first three reports should reflect expenditures incurred each quarter and the final expenditure report must reflect total contract expenses. Previously Contractors submitted only two expenditure reports, one at mid-term in the contract and a final report. With the additional two reports, the Commission can more accurately monitor the expenditure of funds on an individualized basis.

3. The third and fourth quarter advancements will be adjusted for variances between the previous quarters' allocations and actual expenditures. Previously there existed no contract authority to withhold funds on those contracts reporting actual expenditures significantly below their allocations.

4. All requests for purchases of capital equipment must be submitted prior to the third quarter of the contract. Previously there was no contract stipulation regarding equipment purchase. The Commission wanted to assure that contractors were purchasing and using equipment early in their contracts and specifically for use on the funded research project.

Site visits were conducted with administrators and sponsored projects officers at each of the contracting institutions to clarify and discuss the Commission's modification of its policies on expenditure reporting. There was an overwhelmingly positive response by each institution.

Final progress report for those eighteen contracts which terminated June 30 were submitted mid- to late July. A list of those contracts, by title, investigator's name, and total contract amount has been included as an appendix.

Final expenditure reports for contracts terminating June 30 had a due date of September 30. An unexpended balance of \$83,145.49 from all expired contracts was returned to the Commission. These funds will be rolled over into the budget for Fiscal Year 1988-89 and made available for funding new research projects.

An additional staff person was hired by the Commission to assist with clerical duties. Valerie Smithson was hired effective July 5 as a clerk typist to facilitate and relieve the paperwork load.

October - December 1987

The fourth quarter of 1987 was concentrated on the development and distribution of the Request for Competitive Sealed Proposals (RFP) for 1988-89 contracts. The intent was to further design and simplify the application process to make it as responsive to potential investigators as possible.

A brochure entitled "Policies Governing Research Contracts 1988-89" was developed by Commission staff and approved by the Commission. Its purpose is to clearly outline the policies, procedures and expectations of the Commission in its Request for Proposals and subsequent management of contract awards. It was received with an overwhelmingly positive response by investigators and institutions alike.

Request for Proposal #858 was mailed to a total of 419 investigators and institutions throughout the month on October. The due date for the applications in response to the RFP was December 30.

The changes in the 1988-89 RFP process include:

1. For the first time, an Offeror's Conference was held on October 14 to provide the opportunity for potential respondents to ask and have their technical assistance questions answered.
2. An improved process for the review of applications was outlined. Each application will go through three levels of review: **Staff review, Peer review and Commission review.** The staff will review each application to determine its responsiveness to the procedures outlined in the RFP. Peer review will be accomplished through technical evaluations of applications by peer review panels consisting of 4 to 5 scientific and medical experts recruited along the lines of scientific disciplines or disease areas. Finally, the members of the Commission will review each application, based initially on its lay summary and the accumulated peer reviews.
3. The Commission will initiate multi-term contracts in 1988-89. This means that those proposals awarded for more than one year will not require the preparation of a new contract for each of its subsequent years.
4. New budget forms were distributed with the RFP package. The forms used are Department of Health Service budget forms and should facilitate the monitoring and accounting of expenditures by both the Commission and the Department's Accounting personnel.

ATTACHMENTS

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ATTACHMENT 1

ARIZONA DISEASE CONTROL RESEARCH COMMISSION

1987-88 APPLICATIONS SUBMITTED/FUNDED
SUMMARY

Total Proposals Submitted: 104
Total Proposal Funded: 25 (24%)

Total Amount Requested \$5,253,416
Total Amount Funded \$795,048

by Category: Category I (\$25,000 and under) 75 (72%)
Category II (over \$25,000) 29 (28%)

by Priority Area: Submitted Funded

A. CARDIOVASCULAR AND OTHER CIRCULATORY DISEASES/DISORDERS

Category I 10 1
Category II 8 2

B. HEALTH EFFECTS OF ENVIRONMENTAL POLLUTANTS

Category I 4 1
Category II 1 1

C. HEALTH PROMOTION AND DISEASE PREVENTION

Category I 16 5
Category II 2 0

D. INFECTIOUS AND IMMUNOLOGIC DISEASES/DISORDERS

Category I 9 2
Category II 7 0

E. MALIGNANT NEOPLASMS

Category I 16 5
Category II 3 0

F. METABOLIC AND ENDOCRINE DISORDERS

Category I 13 4
Category II 2 0

G. NEUROLOGIC, MENTAL, AND BEHAVIORAL DISEASE/DISORDERS

Category I 6 3
Category II 3 0

H. RESPIRATORY DISEASES

Category I 1 0
Category II 3 1

ATTACHMENT 2

ARIZONA DISEASE CONTROL RESEARCH COMMISSION
1987-88 AWARDS

Total Number of Awards: 25

| <u>DISEASE CATEGORIES</u> | <u># OF AWARDS</u> | <u>% OF TOTAL AWARDS</u> |
|--|--------------------|--------------------------|
| Cancer | 5 | 20 |
| Cardiovascular Diseases | 3 | 12 |
| Infectious Disease | 2 | 8 |
| Health Promotion/Disease Prevention | 5 | 20 |
| Metabolic and Endocrine Disorders | 4 | 16 |
| Neurologic, Mental & Behavioral Disorders | 3 | 12 |
| Health Effects of Environmental Pollutants | 2 | 8 |
| Respiratory Diseases | <u>1</u> | <u>4</u> |
| TOTAL | 25 | 100 |

| <u>INSTITUTION</u> | <u># OF AWARDS</u> | <u>% OF TOTAL AWARDS</u> |
|----------------------------------|--------------------|--------------------------|
| University of Arizona | 12 | 48% |
| Arizona State University | 6 | 24% |
| Northern Arizona University | 1 | 4% |
| Barrow Neurological Institute | 2 | 8% |
| Samaritan Medical Foundation | 1 | 4% |
| St. Joseph's Hospital | 1 | 4% |
| Az Department of Health Services | 1 | 4% |
| Institute for Biogerontology | <u>1</u> | <u>4%</u> |
| TOTAL | 25 | 100 |

ATTACHMENT 3

ARIZONA DISEASE CONTROL RESEARCH COMMISSION
87-88 New Awards

| <u>PRINCIPAL INVESTIGATOR</u> | <u>INSTITUTION</u> | <u>TITLE OF PROPOSAL</u> | <u>\$ AMOUNT</u> |
|-------------------------------|-------------------------------|---|------------------|
| William Barber | University of Arizona | Neurochemical Substances which Generate or Block Brainstem Unitary Responses Concerned with Food Intake | \$24,500 |
| James Blanchard | University of Arizona | Procedures for Monitoring Free Theophylline Blood Levels: Evaluation of Binding Variability in Patients on Regular Theophylline Therapy | \$28,000 |
| Eldon J. Braun | University of Arizona | Kidney Stones: A Basic Model to Elucidate the Development of Kidney Stones in Humans | \$24,500 |
| William Burke | Arizona State University | Genetic Engineering of Mosquitocidal Bacteria | \$20,548 |
| Peter Buseck | Arizona State University | Health Effects and Characterization of Particulate Air Pollutants in Arid, Urban Environments: Phoenix and Tucson | \$100,000 |
| John Davis | University of Arizona | Human Papillomavirus Genotypes in Cervical Dysplasia | \$26,500 |
| Jack Dillenberg | Department of Health Services | Arizona State Pathfinder Survey | \$24,000 |
| Eric Guilbeau | Arizona State University | Glucose Sensor for Treatment of Diabetes | \$24,000 |
| Mac Hadley | University of Arizona | Melanotropic Hormones for Melanoma Studies | \$24,500 |
| Bertram Jacobs | Arizona State University | Mechanism of Induction of Virus-associated Diabetes Mellitus | \$24,000 |
| Abram Katz | Samaritan Medical Foundation | Glucose-1, 6-Bisphosphate Content and Glycogen Synthase Activity in Human Skeletal Muscle and thier Relationship to Carbohydrate Metabolism in Normal and Non-Insulin Dependent | \$20,000 |

| | | | |
|------------------|---------------------------------------|--|-----------|
| Murray Korc | University of Arizona | Control of Neoplastic Growth by Modulation of Growth Factor Receptor Expression and Activation | \$24,500 |
| Hugh Laird | University of Arizona | Mechanism of Benzodiazepine Modulation of Normal and Malignant Cell Growth | \$24,000 |
| Aaron Margolin | University of Arizona | Rapid Detection of Enteric Viruses in Water Using Gene Probes | \$24,000 |
| Ronald Markle | Northern Arizona University | Pilot Studies of Substance P and Arterial Permeability | \$23,500 |
| Joel Meister | University of Arizona | The Health of Arizona's Farmworkers: Creating a Database for Service, Research and Policy | \$24,500 |
| Eugene Morkin | University of Arizona | Action of Thyroid Hormone on the Heart: A New Basis for Treatment of Congestive Failure | \$125,000 |
| Elliot Mufson | Institute for Biogerontology Research | Somatostatinergic Systems in Aged and Alzheimer's Diseased Brain | \$24,500 |
| Kenneth Ryan | University of Arizona | Molecular Methods for Detection and Characterization of Shigella Species | \$24,000 |
| William Schiller | St. Joseph's Hospital | Metabolic Responses to Multiple Trauma in Elderly and the Nutritional Implications | \$24,000 |
| Georgia Smith | Arizona State University | Cell Growth Regulation by a (2'-5') Oligoadenylate-Dependent Endonuclease (RNase L) | \$22,500 |
| Volker Sonntag | Barrow Neurological Institute | Identification of the Mechanisms of Traumatic Spinal Cord Injury | \$13,500 |
| Ruth Smothers | University of Arizona | The Effect of Aluminum Contaminated Water Supply in Man: An Experimental Approach | \$25,000 |
| Robert Spetzler | Barrow Neurological Institute | Induced Cardiac Arrest and Brain Ischemia | \$50,000 |
| Bruce Towe | Arizona State University | Noninvasive Measurement of Cancer Tumor Bioelectricity | \$25,000 |

ATTACHMENT 4

ARIZONA DISEASE CONTROL RESEARCH COMMISSION
1987/88 Continuation Awards

| <u>PRINCIPAL INVESTIGATOR</u> | <u>INSTITUTION</u> | <u>TITLE OF PROPOSAL</u> | <u>\$ AMOUNT</u> |
|-------------------------------|------------------------------|---|------------------|
| Emmanuel Akporiaye | Northern Arizona University | Generatin of T-Lymphoytes with High Anti-Tumor Activity | \$42,000 |
| Harris Bernstein | University of Arizona | The DNA Damaging Activity of Bile Acids in Colon Tissue: Relationship to Colon Cancer | \$29,000 |
| Janis Burt | University of Arizona | Intracellular Communication in Neonate vs Adult Myocardium Influence of Surgical Conditions and Ischemia | \$41,000 |
| Raymond Carmody | University of Arizona | MRI vs Myelography for Diagnosis of Spinal Cord Compression due to Metastasis | \$19,000 |
| Jack Cole | University of Arizona | Novel Antitumor Agents from Plants | \$45,000 |
| M.A. Cusanovich | University of Arizona | Cardiac Myosin: Normal and Diseased | \$39,000 |
| John Galgiani | University of Arizona | Purification and Application of Antigens from Coccidioides Immitis | \$80,000 |
| Raphael Gruener | University of Arizona | Single Chloride Channel Behavior of Cultured Cystic Fibrosis Epithelial Cells | \$40,000 |
| Barbara Howard | Samaritan Medical Foundation | The Effect of a High Carbohydrate Low Saturated Fat Diet on Lipoprotein Metabolism in Non-insulin Dependent Diabetes Mellitus | \$46,700 |
| Eugene Hoyne | University of Arizona | Arizona Teratogen Information Program | \$40,000 |
| Charles Juels | Maricopa County Health Dept. | Development of Interventions for Control of Giardiasis and Cryptosporidiosis in Arizona Day Care Centers | \$30,000 |
| David Kreulen | University of Arizona | Neural Control of Blood Vessels and the Action of Antihypertensive Drugs | \$45,000 |

| | | | |
|------------------|--------------------------|--|-----------|
| Chester Leathers | Arizona State University | Coccidioidomycosis: Improved Diagnostic Techniques | \$40,000 |
| Norman Levine | University of Arizona | Radiofrequency Hyperthermia in the Treatment of Skin Cancer | \$31,000 |
| George Pettit | Arizona State University | Discovery and Development of New Anticancer Drugs | \$170,000 |
| Diane Russell | University of Arizona | Mechanism of Prolactin Regulation of Normal and Malignant Growth | \$43,000 |
| Charles Sterling | University of Arizona | Giardiasis and Cryptosporidiosis in Arizona | \$40,000 |
| Sydney Salmon | University of Arizona | Arizona Cancer Center Research Program | \$740,000 |
| Marlys Witte | University of Arizona | Relationship of Kaposi Sarcoma with AIDS | \$25,000 |

ATTACHMENT 5

ARIZONA DISEASE CONTROL RESEARCH COMMISSION
1988-89 Applications

Proposals submitted
TOTAL = 94

| <u>Disease Category</u> | <u># Submitted</u> | <u>% of Total Submitted</u> |
|---|--------------------|-----------------------------|
| Cardiovascular/Circulatory ("A") | 11 | 12% |
| Health Effects Environ Pollutants ("B") | 11 | 12% |
| Health Promotion/Disease Prevention ("C") | 19 | 20% |
| Infectious/Immunologic ("D") | 12 | 13% |
| Malignant Neoplasms ("E") | 17 | 18% |
| Metabolic/Endocrine ("F") | 9 | 9% |
| Neurologic/Mental/Behavioral ("G") | 10 | 11% |
| Respiratory ("H") | 5 | 5% |
| TOTALS | 94 | 100% |

| <u>Institution</u> | <u># Submitted</u> | <u>% of Total Submitted</u> |
|--|--------------------|-----------------------------|
| University of Arizona* | 61 | 65% |
| Arizona State University | 13 | 14% |
| Barrow Neurological Institute | 6 | 6% |
| Harrington Arthritis Center | 3 | 3% |
| Other: | 11 | 12% |
| St. Joseph's Hospital - 2 | | |
| Northern Arizona University - 2 | | |
| Dept. of Health Svcs/Dental Hlth - 1 | | |
| Institute for Biogerontology - 1 | | |
| Southwest Biomedical Research Inst - 1 | | |
| NIH/Clin Diabetes Section/Phx - 1 | | |
| Phx Children's Hospital - 1 | | |
| Mesa Lutheran Hospital - 1 | | |
| Johns Hopkins Rsch Ctr/Whiteriver - 1 | | |
| TOTALS | 94 | 100% |

* Includes Health Sciences Center, College of Pharmacy, Veterans Administration Hospital, and Main Campus

Total amount of money requested for 1988-89: \$3,505,826

| <u>Disease Category</u> | <u>Amount Requested</u> | <u>% of Total Requested</u> |
|--------------------------------------|-------------------------|-----------------------------|
| Cardiovascular Circulatory | 344,561 | 10% |
| Health Effects of Environ Pollutants | 414,512 | 12% |
| Malignant Neoplasms | 624,688 | 18% |
| Health Promotion/Disease Prevention | 681,140 | 20% |
| Infectious/Immunologic | 562,797 | 16% |
| Metabolic/Endocrine | 294,912 | 8% |
| Neurologic/Mental/Behavioral | 395,375 | 11% |
| Respiratory | <u>187,841</u> | <u>5%</u> |
| TOTALS | 3,505,826 | 100% |

ATTACHMENT 6

APPLICATIONS IN CANCER, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|---|------------------------|-----------------------|----------------------------|
| 43 | Emmanuel Akporiaye | Cloning of Cytotoxic T-lymphocytes and Eluciation of Cell ... | NAU | 25,000 | 3 |
| 18 | Frederick Ahmann | Hemostatic and Fibrinolytic Defects in Prostate Cancer ... | Tucson VA | 24,501 | 1 |
| 55 | Joseph Bagnara | Immunologic Relationship Between Vertebrate Pigment Cells...Melanoma | U of A | 24,995 | 2 |
| 94 | Louise Canfield | Regulation of Carotene Dioxygenase: A Novel Approach to Cancer Prevention | U of A | 24,038 | 2 |
| 17 | Anne Cress | Identification of Intracellular Binding Sites for Chemotherapeutic Drugs... | U of A | 25,000 | 3 |
| 51 | John Duffy | Hyperthermia Induced Polyamine Acetylation | U of A | 24,975 | 3 |
| 21 | Libby Edwards | Effects of Oral Isotretinoin and Intralesional Interferon...Cell Carcinomas | U of A | 24,050 | 1 |
| 28 | Elliott Goldstein | The Development of a Model Gene System...Oncogene Targets | ASU | 24,354 | 3 |
| 82 | Anna Hill | Enhanced Isolation of Cis-Platinum-Resistant Mutants ... | Cancer Center | 25,000 | 3 |
| 61 | Richard Jensen | Purification and Properties of a Novel Anti-Tumor Cytokine ... | U of A | 25,000 | 2 |
| 93 | Norman Levine | Safety and Efficacy of Hyperthermia in Treatment of Basal Cell Carcinoma ... | U of A | 19,184 | 2 |
| 54 | Paul Meltzer | Molecular Analysis of B-Cell Neoplasia | U of A | 25,000 | 3 |
| 10 | Raymond Nagle | Quantative Immunohistochemical Determination of Estrogen Receptor Content ... | U of A | 24,980 | 1 |
| 2 | Claire Payne | A Comprehensive Ultrastructural Evaluation of the Cellular Features... | U of A | 62,709.90 | 3 |
| 9 | George Pettit | Human Cancer-Causing Viruses: ... Curative Drugs | ASU | 204,031 | 3 |
| 31 | Jean Schmidt | Cell Growth Inhibition Assays for Detection of New Anticancer | ASU | 25,000 | 3 |
| 85 | John Shaw | East Valley Radiologic Oncology Investigation | Mesa Lutheran Hospital | 16,870 | 1 |

APPLICATIONS IN NEUROLOGIC, MENTAL AND BEHAVIORAL DISORDERS, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|------------------------------|-----------------------|----------------------------|
| 65 | Stuart R. Hameroff | Magnesium and Zinc Effects on Cerebral Tolerance to Hypoxia | U of A | 24,584 | 1 |
| 39 | Timothy Harrington | Prospective Study of Acute Treatment ... Brain Injured Older Patients | BNI | 135,612 | 2 |
| 40 | Timothy Harrington | Nutrition and Head Injured Patient: The Effects of Eicosapentaenoic... | BNI | 41,502 | 1 |
| 74 | Michael Frost | Evaluation of Computerized Neurophysiologic Studies to Identify ... | Phx Children's Hospital | 23,804 | 3 |
| 25 | Paul St. John | ALS and Factors that Block Death of Motoneurons | U of A | 24,996 | 2 |
| 34 | Therese Markow | Genetics and Brain Asymmetry | ASU | 24,998 | 2 |
| 73 | Joseph Rogers | Brain-Immune Interactions in Alzheimer's Disease | Institute for Biogerontology | 24,979 | 3 |
| 41 | Volker Sonntag | The Neurological Basis for Bell's Cruciate Paralysis | BNI | 29,660 | 2 |
| 42 | Robert Spetzler | Familial Cavernous Malformations: Study of the Natural History | BNI | 40,475 | 2 |
| 19 | Henry Yamamura | Evaluation of Novel Opioid Drugs Using Cultured Neuroblastoma Cells | U of A | 24,765 | 2 |

APPLICATIONS IN HEALTH PROMOTION AND DISEASE PREVENTION, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|--------------------|-----------------------|----------------------------|
| 88 | Kay Bauman | The Effects of Aids Education...on the Az Health Care Professional's... | U of A | 19,627 | 3 |
| 78 | William Burke | Genetic Manipulation of Mosquitocidal Bacteria | ASU | 23,977 | 2 |
| 47 | Anthony Camilli | Determinants of Low Dose Smoking Among Mexican Americans | U of A | 148,602 | 2 |
| 6 | Milos Chvapil | Liposome-Encapsulated Cobalt as a Potential Hemopoieses-Stimulating... | U of A | 20,819 | 1 |
| 11 | Richard Dart | Development of the Az Snake Envenomation Database | U of A | 24,048 | 1 |
| 49 | Jack Dillenberg | A Project to Assess the Acutal Fluoride Levels in Az Water Supplies... | Health Svcs. | 63,153 | 3 |
| 14 | Ned Egen | A Technique for Identifying/Quantifying...Rattlesnake Venom in...Patients | U of A | 24,950 | 3 |
| 62 | Gail Harrison | Validation of Objective Measures of Adherence to Low-Fat Diets | U of A | 23,687 | 3 |
| 90 | Evan Kligman | Impact of Health Promotion on Older Adults in Rural Arizona | U of A | 24,103 | 2 |
| 72 | James Koenenman | Subchondral Bone Stiffening in the Etiology of Osteoarthritis: ... | Harrington | 94,665 | 2 |
| 48 | Robert Mead | Effects of Blood Level Screening & Dietary Counseling...in Community Pharm | U of A | 21,780 | 1 |
| 23 | William McGhan | Evaluating a Telephone-Accessible Self-Help System for the Elderly | U of A | 24,527 | 1 |
| 91 | Andrew Nichols | Measuring Health Condition of Homeless People | U of A | 21,317 | 1 |
| 1 | Douglas Perednia | Computerized Skin Scanning for Early Detection...of Skin Disease | U of A | 25,000 | 3 |
| 89 | Richard Reed | Predictors of Preventible Falls in the Elderly | U of A | 24,434 | 1 |
| 13 | Gary Smith | Development and Implementation of an Electronic Drug Info Bulletin... | U of A | 24,995 | 1 |
| 15 | Daniel Spaitte | Trauma Death in Pima County: Effect of Regionalized Trauma Care System | U of A | 24,980 | 1 |
| 29 | Deborah Sullivan | Infant Mortality and Low Birthweight in Az: Multivariate Analysis of... | ASU | 24,992 | 1 |
| 8 | Barry Weiss | Decreasing Bicycle-Related Deaths Among Children ... | U of A | 21,484 | 1 |

APPLICATIONS IN METABOLIC AND ENDOCRINE DISORDERS, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|--------------------|-----------------------|----------------------------|
| 37 | Clifton Bogardus | A New Method to Measure Physical Activity in Man:... | NIH | 22,744 | 3 |
| 57 | Patsy Brannon | Aging and Digestive Function of the Pancreas | U of A | 25,000 | 2 |
| 69 | Thomas Boyden | A Prospective Evaluation of Bone Density in Men Randomly Assigned... | U of A | 24,974 | 1 |
| 35 | William Dorson | Augmented Hemoperfusion for the Treatment of Hyperbilirubinemia | ASU | 64,262 | 2 |
| 36 | William Dorson | A Hybrid Pancreas Utilizing Functional Insulin-Producing Tissues | ASU | 24,979 | 1 |
| 92 | Eileen Jablonka | A Possible Etiology of Psoriasis | U of A | 62,287 | 1 |
| 5 | Malayappa Jeevanandam | Metabolic Responses to Trauma in Obese Subjects & Nutritional Implications | St Jo's | 24,998 | 3 |
| 4 | William Schiller | Evaluation of Biochemical Markers | St. Jo's | 24,995 | 3 |
| 86 | John Udall | Development of a New Method to Assess Lactose Malabsorption | U of A | 20,673 | 1 |

APPLICATIONS IN INFECTIOUS AND IMMUNOLOGIC DISEASES/DISORDERS, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|----------------------------|-----------------------|----------------------------|
| 46 | Robert Barbee | The Effect of Pregnancy on the Maternal Immune Response in Coccidiomycosis | U of A | 24,415 | 2 |
| 71 | Joseph Dupont | The Role of Bone Cement Allergy in Total Joint Replacement Failure | Harrington | 21,753 | 2 |
| 84 | Christobal Eblen | The Influence of Stress and Immune System ...in Juvenile Rheumatoid Arthritis | Harrington | 24,374 | 3 |
| 3 | Richard Friedman | Further Development of Rapid Diagnostic Tools for Identification of Bortella.. | U of A | 48,143 | 3 |
| 75 | Evan Hersh | Therapeutic Research on HIV Infection (AIDS) | U of A | 133,541 | 3 |
| 52 | Robert McCuskey | Role of Kupffer Cells in Liver Pathophysiology | U of A | 24,928 | 3 |
| 60 | David Montgomery | Regulation of Lymphocyte Proliferation by Prolactin-Like Proteins | U of A | 24,715 | 3 |
| 77 | Eskild Peterson | Comprehensive Data Collection and Statistical Analysis of HIV Patients in AZ | U of A | 24,554 | 2 |
| 16 | Mathuram Santosham | BP1G Prophylaxis of Pneumococcal and Other Infections | Johns Hopkins Baltimore | 87,446 | 3 |
| 64 | Michael Schumacker | Africanized Bees: Antivenom Therapy | U of A | 24,958 | 1 |
| 80 | Charles Witte | Boosting Extrasplenic Splenometric Function to Avert Fatal Post-Splenectomy.. | U of A | 24,970 | 3 |
| 8 | Marlys Witte | AIDS-Kaposi's Sarcoma in 1968: ...Implications of the First Documented Case... | U of A | 99,000 | 3 |

APPLICATIONS IN CARDIOVASCULAR/CIRCULATORY DISEASES, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|--------------------|-----------------------|----------------------------|
| 38 | Phillip Carter | Evaluation of Heparin and Urokinase Therapy for Treatment of Embolic Stroke | BNI | 49,953 | 2 |
| 63 | William Feinberg | Molecular Markers of Hemostasis in Cerebrovascular Disease | U of A | 24,633 | 2 |
| 44 | Arthur Gmitro | In-Vivo Diagnosis and Localization of Disease via NMR and Optical Spectroscopy | U of A | 25,000 | 3 |
| 30 | Eric Guilbeau | Evaluation of Pericardial Substitutes | ASU | 25,000 | 1 |
| 70 | Paul Keller | Development of Lactic Acid Specific Magnetic Resonance Imaging | BNI | 23,133 | 2 |
| 76 | David Kruehen | Antihypertensive Diuretic Drugs: Neurovascular Sites & Mechanisms of Action | U of A | 73,131 | 3 |
| 12 | Douglas Lindsey | Protein Solution Circulatory Support in Rattlesnake Envenomation | U of A | 24,945 | 1 |
| 50 | Ronald Markle | Studies of Aortic Wall Tachykinins, Permeability and Hypertension | NAU | 25,000 | 1 |
| 66 | Paul Nolan | Early Detection and Treatment of Phlebitis | U of A | 24,803 | 2 |
| 67 | Paul Nolan | Clinical Pharmacokinetics of Amiodarone in Elderly, Obese, ... | U of A | 24,213 | 2 |
| 79 | Charles Witte | Atrial Natriuretic Factor Before & After Peritoneovenous Shunt for Ascites... | U of A | 24,750 | 3 |

APPLICATIONS IN HEALTH EFFECTS OF ENVIRONMENTAL POLLUTANTS, 1988-89

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|----------------------|-----------------------|----------------------------|
| 26 | Gordon Cluff | Effects of Hearing Protection on Communication | ASU | 22,572 | 3 |
| 20 | Stanley Goldberg | Cardiac Teratogenicity of Halogenated Aliphatic Hydro-Carbons and Chromium... | U of A | 100,169 | 3 |
| 87 | T. Murphy Goodwin | A Study of the Teratogenic Effect...Toluene Abusing Gravidae & their Offspring | Southwest Biomedical | 23,100 | 3 |
| 27 | Kimberlee Kearfott | Radon Gas in Arizona Homes | ASU | 58,171 | 2 |
| 24 | R. Clark Lantz | Synergistic Effects of Oxidant Air Pollutants and Coal Fly Ash on Pulmonary... | U of A | 24,851 | 3 |
| 56 | Douglas Park | Determination of Toxic/Mutagenic...Aflatoxins Decontamination...in Foods/Feeds | U of A | 23,368 | 2 |
| 59 | Douglas Park | Determination of Toxic/Mutagenic...Plant Toxins in Herbal Teas & Plants in AZ | U of A | 20,068 | 2 |
| 58 | Joan Rose | Significance of Waterborne Traveler's Diarrhea | U of A | 24,984 | 1 |
| 33 | Milton Sommerfeld | Urban Lakes: Potential Sinks for Biohazardous Substances | ASU | 24,797 | 3 |
| 53 | Charles Sterling | Waterborne Parasitic Diseases in Ariz: Defining the Extent of the Problem | U of A | 67,438 | 3 |
| 83 | Marlys Witte | Effect of Alcohol on the Hepatic Microvasculature In Vivo and In Vitro | U of A | 24,994 | 3 |

APPLICATIONS IN RESPIRATORY DISEASES

| <u>ID#</u> | <u>Principal Investigator</u> | <u>Project Title</u> | <u>Institution</u> | <u>Budget Request</u> | <u>Duration of Request</u> |
|------------|-------------------------------|--|--------------------|-----------------------|----------------------------|
| 22 | James Blanchard | Procedures for Monitoring Free Theophylline Blood Levels: ... | U of A | 29,107 | 2 |
| 45 | John Bloom | Cholinergic Mechanisms in Bronchoconstriction | U of A | 24,924 | 2 |
| 68 | Raphael Gruener | Ion Channel Behavior of Cystic Fibrosis Epithelial Cells | U of A | 84,167 | 2 |
| 32 | Vincent Pizziconi | Effect of Extracorporeal Membrane Oxygenation (ECMO) on Neonatal Sepsis | ASU | 24,663 | 1 |
| 7 | Susan Wilson | Evaluation of Perfenidone, A New Non-Steroidal Anti-Inflammatory Agent ... | U of A | 24,980 | 1 |

ATTACHMENT 7