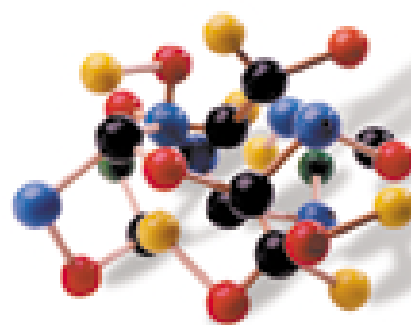


1999


# The future is now.

A n n u a l R e p o r t



**Worcester Foundation for Biomedical Research**

*Supporting basic biomedical research at the University of Massachusetts Medical School*



The Worcester Foundation for Biomedical Research is a 501(c)(3) nonprofit organization internationally recognized for its revolutionary contributions to biology and medicine. Among its best known contributions are the discovery and development of the birth control pill, the pioneering work that made *in vitro* fertilization possible and the first systematic laboratory study of the anti-tumor actions of tamoxifen, an anti-estrogen drug that has subsequently revolutionized treatment of breast cancer.

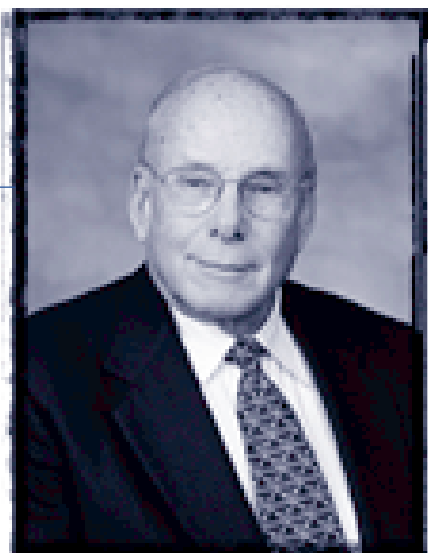
Initially an independent research institute, the Worcester Foundation for Biomedical Research merged with the University of Massachusetts Medical School in 1997. Today, the Worcester Foundation is devoted to the support of basic biomedical research of the combined research enterprise, and to the education and training of tomorrow's scientists.



## Table of Contents

---

Message from the Chairman .....	2
Message from the President .....	3
Message from the Director .....	4
The Year in Review .....	5-6
Beyond Imagining the Possibilities: The Annual Research Fund .....	7-8
Ascending to New Heights: The Hudson Hoagland Society.....	9
Driving Research: The Worcester Foundation Auxiliary .....	10
Applauding Advocacy: Private Support for Research .....	11
Named Endowment Funds .....	11-13
Planned Gifts and Bequests .....	13
The Annual Research Fund.....	14
Hudson Hoagland Society Members .....	14-15
Additional Donors .....	15-18
Corporate and Foundation Donors .....	18
Memorial and Special Occasion Gifts .....	18-21
The Worcester Foundation Board of Trustees .....	22-23
Making a Gift.....	24



## Message from the Chairman

The Worcester Foundation for Biomedical Research has for decades been internationally recognized for its revolutionary contributions to biology and medicine. Among the earliest, and best known, was the discovery and development of the birth control pill, giving millions of families control over childbearing. Subsequent discoveries include pioneering work that led to the development of *in vitro* fertilization and the first systematic laboratory studies of the drug tamoxifen, used to prevent and treat breast cancer.

**Poised on the threshold of a new millennium, the Worcester Foundation is entering a new and exciting chapter in its evolution.**

Just two years ago, the Foundation merged with the University of Massachusetts Medical School, and we could not have envisioned a more successful, productive union. Today, this integrated entity's faculty are leaders in areas such as gene expression, cell dynamics and cellular imaging, cell signaling, diabetes, pediatric and adult HIV/AIDS and immunology. Major new initiatives in human genetics and neuroscience are planned.

To further solidify the merger, last fall UMMS Chancellor and Dean Aaron Lazare asked the Worcester Foundation Board of Trustees to serve as the lay advisory council to the Medical School on matters relating to the research enterprise, which we eagerly agreed to do. In this expanded role, the board will provide advice and counsel on strategic planning, research affiliations, finance and philanthropy, commercial ventures

and intellectual property, and physical plant and equipment.

Several new trustees were elected this year, and will help us tremendously as we embark on this new, exciting role: Melvin S. Cutler, I. Robert Frelander, Maurice H. Martel, DDS, William C. Meyers, MD, and O. Nsidinanya Okike, MD. We also welcome back to the board a former trustee and board chairman, Robert M. Quinlan, MD. This distinguished group will bring much experience and wisdom to the board in its advisory position.

The Worcester Foundation continues to be the engine that drives this research enterprise forward by providing crucial philanthropic support. The past fiscal year saw us raise \$2.21 million in private support for research at UMMS. The commitment and generosity of every donor help propel us toward ultimate freedom from disease. To each of you, I wish to extend my heartfelt thanks and appreciation for your contributions over the past year. And I look forward to working closely with you to advance our research programs in the new millennium.

*Morton H. Sigel*

Morton H. Sigel



## Message from the President

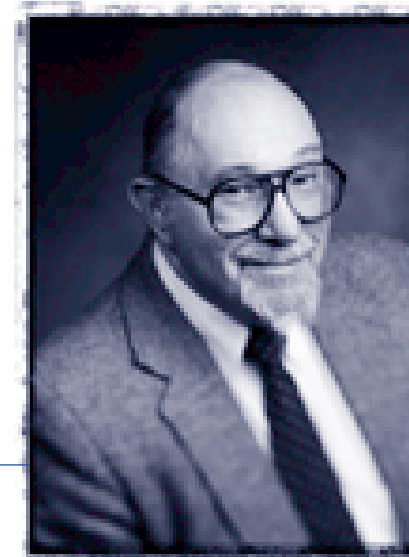
**It was a wonderful year in the life of the Worcester Foundation for Biomedical Research.**

Thanks to the vision and generosity of several major benefactors—Mr. Robert W. Booth, the late H. Arthur Smith and the trustees of his foundation and Dr. Vitold Arnett—three endowed positions were created at the University of Massachusetts Medical School through the Worcester Foundation. These positions (and their faculty awardees) are: the George F. Booth Chair of Basic Sciences (George B. Witman III, PhD, professor of cell biology); the H. Arthur Smith Chair for Cancer Research (Richard B. Vallee, PhD, professor of cell biology); and the Vitold Arnett Professorship of Cell Biology (Thoru Pederson, PhD, professor of biochemistry & molecular biology).

A medical school's ability to offer endowed positions to its best and brightest research faculty is so very important, both to retain its stars and recruit the best talent. The number of endowed chairs and professorships at UMMS has grown from four to 16 between 1997 and 1999 alone, thanks in part to the benefactors of the Worcester Foundation. The Foundation also created six new postdoctoral fellowships, enabling young investigators to get their careers started and new ideas to flourish.

With major support from the Fannie E. Rippel Foundation and others, including the Aldus C. Higgins Foundation, the George F. and Sybil H. Fuller Foundation, the Thomas Anthony Pappas Charitable Foundation, the Elizabeth Taylor Fessenden Foundation, the J. Irving England and Jane L. England Charitable Trust and the Margaret Sherman Trust, the Worcester Foundation has helped establish a nuclear magnetic resonance imaging facility that will help transform research into new patient treatments. With this tool, we can study the structure and function of enzymes and proteins in order to develop more efficiently new drug therapies to fight diseases such as AIDS, sickle cell anemia, and breast and prostate cancer.

For two years now, the Worcester Foundation Board of Trustees has awarded grants of approximately \$33,000 each as seed money for the most promising new research projects at UMMS. Nineteen grants totaling over \$625,000 have been awarded so far. These monies are raised through the Annual Research Fund, including the Hudson Hoagland Society. This initiative has proved to be a valuable



catalyst in helping our investigators obtain further federal funding; in fact, those funded in the program's first year have garnered some \$3.5 million in National Institutes of Health (NIH) grants to date. Our goal is to grow the Annual Research Fund in order to award more seed grants in the future.

With more than \$93 million in total annual NIH funding for research, UMMS today is emerging as an institution of national distinction. The key to sustaining this momentum is through the growth of our research program. By adding talented faculty and strengthening our centers of research excellence, we can fuel remarkable discoveries that improve patient care and, ultimately, cure disease. I thank all of you who share this vision.

*Edward Bresnick*

Edward Bresnick, PhD



## Message from the Director

Our successful, new partnership with the University of Massachusetts Medical School is now in full stride and success rings out in every hallway of our laboratories.

Our collective scientific enterprise now enjoys new efficiencies, with groups of collaborating researchers enjoying reduced operating costs. These new collegial relationships and their commerce of shared ideas are catalyzing increasingly vigorous new attacks on the fundamental principles of biology, as well as the major diseases that afflict us.

Now, as a matter of sheer scale, there are more scientists with more ideas, with all of us able to access more state-of-the-art facilities than ever before to accelerate the pace of our work. And yet, it goes both ways; indeed, the Worcester Foundation has offered much to UMMS. Our legacy of major scientific awards and programs, the commitment of our board of trustees and our international stature all add to the new collaborative spirit.

The renewed vigor of the Worcester Foundation's constituency, many of whose members were anxiously waiting to see if the merger would be successful, is enormously gratifying. This enthusiasm includes not only our trustees, but major foundation sources of support, our

Hudson Hoagland Society, individual donors and our wonderful Auxiliary, which has launched new fund-raising programs with great panache. I wish to convey my heartfelt thanks to all our supporters who have stayed the course during this transitional period and now support the Worcester Foundation in its new collaborative linkage with research at UMMS.

The Worcester Foundation and UMMS are now engaged in the construction of an exciting new research laboratory building that will enable us to recruit over 100 new research scientists in the next three years. This building will be designed to facilitate basic biological research in the Worcester Foundation tradition, coupled with more disease-relevant studies and clinical investigations. The 10-story building will house programs in human genetics, biochemistry and drug design, cancer research, neuroscience and a newly invigorated Department of Medicine with a research-intensive motif. The Worcester Foundation and its board of trustees are strategically involved in the plans for this new

building and in the campaign to complete its financing. I am excited by the promise of this building and its scientists. We are evolving to the next tier of excellence, where the stature and number of exuberant, interacting scientists will constitute a biomedical research spirit greater than the sum of its parts.

I don't usually plan too far ahead on my calendar, but I know where I'll be on an early fall day in 2001: at the dedication of the new research laboratory building. Louis Pasteur was stimulated to speak his uplifting words by the opening of a new laboratory building he was dedicating. May our new building equally stir our passions, leading us to see all we can see as scientists, and to be all we can be as healers, as the light of a new age of medicine dawns on our campus.

*Thor Pederson*

Thor Pederson, PhD  
The Vitold Arnett Professor  
of Cell Biology



*"Take interest, I beseech you, in those sacred institutions which we designate under the expressive name of laboratories. Demand that they be multiplied and adorned; they are the temples of wealth and of the future. There it is that humanity grows, becomes stronger and better. There it learns to read in the works of nature, symbols of progress and of universal harmony, whereas the works of mankind are too often those of fanaticism and destruction..."*

—Louis Pasteur, Paris, 1888



## The Year in Review



### Faculty invested

At a ceremony at the Hoagland-Pincus Conference Center on the Worcester Foundation campus, faculty members were appointed to endowed professorships, and the donors of the endowments were honored. Worcester Foundation researchers invested were George B. Witman III, PhD, the George F. Booth Chair of Basic Sciences; Richard B. Vallee, PhD, the H. Arthur Smith Chair for Cancer Research; and Thoru Pederson, PhD, the Vitold Arnett Professor of Cell Biology. Presenting the medals were Penelope B. Rockwell, trustee of the Worcester Foundation and niece of donor Robert W. Booth, and Attorney Matthew Erskine, chairman of the H. Arthur Smith Charitable Foundation.



George B. Witman III, PhD, and Penelope B. Rockwell



Richard B. Vallee, PhD, and Matthew Erskine, Esq.

### M. C. Chang Distinguished Lecture

Shirley M. Tilghman, PhD, one of the world's outstanding researchers in the areas of mammalian development and genomic imprinting, gave the M. C. Chang Distinguished Lecture in January. Dr. Tilghman is the Howard A. Prior Professor of Life Sciences in the Department of Molecular Biology at Princeton University.



Shirley M. Tilghman, PhD

### 'Key discovery' in cancer research

The journal *Science* lauded the work of Greenfield Sluder, PhD, professor of cell biology, and his laboratory team in identifying a trigger that helps tell a dividing cell to copy its centrosome. The journal published his landmark article on the discovery, which may help researchers understand how abnormal replication occurs and its implications for cancer.



Renovations: before and after

### Foundation renovations

Laboratories dating from the early 1960s in Wing B of the Chang Building complex on the Worcester Foundation campus were renovated into 24,000 square feet of modern office space during the spring. New tenants include the Center for Health Care Financing. In the fall, work was completed on the Reed-Rose and Gordon Research Laboratory, where active research programs will soon be underway.

### Pederson receives international prize

In Prague in the summer, Thoru Pederson, PhD, the Vitold Arnett Professor of Cell Biology and director of the Worcester Foundation, was awarded the Bernhard Medal. The honor recognizes outstanding scientific contributions to the study of the cell nucleus and was bestowed during the 16th International Workshop on the Cell Nucleus at a symposium of which Dr. Pederson was the keynote speaker.

### New director of Office for Research

John L. Sullivan, MD, professor of pediatrics, pathology, and molecular genetics & microbiology, was named director of the Office for Research. In addition to heading the Office, which assists more than 250 researchers, Dr. Sullivan works with the chancellor and his staff on all research matters. Priorities include the development of a clinical trials office, establishment of a scientific research council and renovation of research facilities in the basic and clinical science wings on campus.



John L. Sullivan, MD



Michael R. Green, MD, PhD

### Program in Gene Function and Expression

UMMS formed the Program in Gene Function and Expression to study the molecular and genetic bases of human diseases and the mechanisms that regulate how genes are expressed. Program Director Michael R. Green, MD, PhD, professor of biochemistry & molecular biology and Howard Hughes Medical Investigator, has begun recruiting investigators for the Program, which will be housed in the new research laboratory building.



Robert W. Finberg, MD

### Chair of Medicine appointed

Robert W. Finberg, MD, was named professor and chair of the Department of Medicine at UMMS. Formerly professor of medicine at Harvard Medical School and chief of the Infectious Disease Program in the Department of Adult Oncology at the Dana-Farber Cancer Institute, Dr. Finberg pursues research that links the mechanisms of infectious disease with the causes of and cures for cancer. He is presently principal or co-principal investigator for six research studies.



V. Craig Jordan, PhD, DSc

### Trustee Jordan honored as Diana, Princess of Wales Professor

British native V. Craig Jordan, PhD, DSc, a trustee of the Worcester Foundation and professor of cancer pharmacology at Northwestern University, was named the Diana, Princess of Wales Professor of Cancer Research at Northwestern. Presented in accordance with the wishes of Diana's family, the chair is the only one of its kind to be bestowed. As a visiting research fellow at the Foundation from 1972 to 1974, Dr. Jordan completed early studies on the anti-estrogen effects of the chemical tamoxifen, a drug that has been hailed as one of the most significant therapies in the last 20 years for treating estrogen-dependent breast cancer.



Edward Ginns, MD, PhD

### Ginns named director of the Brudnick Institute

Edward Ginns, MD, PhD, was appointed executive director of the Irving S. and Betty Brudnick Neuropsychiatric Research Institute, a facility dedicated to researching the causes, treatment and prevention of mental disorders, and to training basic and clinical

researchers. Dr. Ginns, an internationally renowned neuroscientist and geneticist, comes to Worcester from a position as chief of the Clinical Neuroscience Branch at the National Institute of Mental Health in Bethesda, Maryland.



Ceremonial groundbreaking December 13

### Construction gets underway

UMMS officially broke ground for the construction of the new research laboratory building, scheduled for a fall 2001 opening. Chancellor and Dean Aaron Lazare was joined by University President William M. Bulger and over 100 friends and city, state and University officials. Nancy and Robert Feldman of West Newton and John and Linda Nelson of Worcester were introduced at the ceremony as co-chairs of the capital campaign to raise an estimated \$33 million in private donations needed to support the building's construction.



Architectural rendering of the new research laboratory building



## Beyond Imagining the Possibilities: The Annual Research Fund

The trustees of the Worcester Foundation this year awarded grants totaling \$327,722 for promising, innovative research projects at the University of Massachusetts Medical School.

Ten research projects were funded from a field of 68 candidates with monies raised through the Annual Research Fund. The projects are in areas related to, among others, repair of tissue injury; the identification of new targets for antibiotics; spinal cord injuries and multiple sclerosis; new treatments and preventions for infectious diseases; gene therapy; cancer prevention; and HIV/AIDS.

This is the second year in which the Worcester Foundation has allocated unrestricted funds to provide seed support for promising new investigations. The generosity of the many donors who contribute to the Annual Research Fund, including the members of the Hudson Hoagland Society, enable the Worcester Foundation to increase its support of start-up research, providing invaluable assistance where federal monies are often unavailable.

Contributions to the Annual Research Fund go directly into research laboratories. The scientists whose research proposals received grants in this year's round of funding are:

**Paul Bankey, MD**  
Surgery

MAP kinase regulation of neutrophil apoptosis during inflammation

**Neal C. Brown, PhD**  
Pharmacology & Molecular Toxicology  
Cloning and characterization of a heat-stable DNA polymerase III

**Joaquín Cortiella, MD**  
Anesthesiology and Pediatrics  
Tracheal reconstruction using tissue engineered epithelium in an inhalation injury model

**Daniel L. Kilpatrick, PhD**  
Physiology  
E2F4 and the differentiated state

**Stephen Lambert, PhD**  
Cell Biology

Establishment of a co-culture system for the study of Schwann cell/CNS interactions

**John Leong, MD, PhD**  
Molecular Genetics & Microbiology  
Synthetic peptides that block colonization by enterohemorrhagic *Escherichia coli*

**Shan Lu, MD, PhD**  
Medicine  
Polyvalent HIV DNA vaccines

**William C. Okulicz, PhD**  
Obstetrics & Gynecology  
Laser capture microdissection and differential cell-type response

**Madelyn R. Schmidt, PhD**  
Molecular Genetics & Microbiology  
A new model of mammalian gene transfer

**Michael R. Volkert, PhD**  
Molecular Genetics & Microbiology  
Does mutation of the acute myeloid leukemia factor MLF1 cause increased sensitivity to oxidative DNA damage?

## The Annual Research Fund

### A Step Toward New Therapies

When a disease such as multiple sclerosis (MS) or a spinal cord injury destroys myelin, the insulating material wrapped around the nerve fibers of the brain and spinal cord, signals transmitted through the central nervous system (CNS) are slowed, garbled or blocked.

Transplanting Schwann cells—the cells that lay down the myelin sheath around nerve fibers—from a patient's peripheral nervous system into the CNS has been proposed as a therapy for MS and spinal cord injuries. Stephen Lambert, PhD, UMMS professor of cell biology, is applying a Worcester Foundation Annual Research Fund grant to work in this area.

"Although transplantation studies in animals have shown promise for this therapy, an *in vitro* system to study and

manipulate the interaction of Schwann cells and central nervous system axons [nerve fibers] hasn't been established," Dr. Lambert explained. In his lab, Lambert is establishing a co-culture system that can be used to determine whether Schwann cells are able to myelinate CNS nerve fibers *in vitro*. Next, he'll use this co-culture system to learn if Schwann cells can distinguish between myelinated and non-myelinated CNS axons and, ultimately, whether they can correctly stimulate the formation of nodes that help to transmit electrical signals through the CNS, and recover function.

"This work is crucial to assessing the suitability of future transplantation therapies involving Schwann cells, and for developing drugs and techniques

that may enhance these therapies," Lambert said. "The pilot nature of this project, however, doesn't lend itself to funding from the usual sources. But the Worcester Foundation grant allows me to develop this important work independently and, it's hoped, to an extent where it could merit NIH funding."



Stephen Lambert, PhD

### A Path to Correcting Genetic Defects



Madelyn R. Schmidt, PhD

Rapid advances in molecular biology have made the repair of genetic defects by transferring normal genes into mutant cells a clinical reality. This procedure, known as gene therapy, is applicable to any type of cell. Lymphocytes, or white blood cells, frequently have genetic defects that cause immunodeficiencies, such as those in children who must live in isolation chambers (the "bubble boy") and who have AIDS-like pathology.

One focus of research in the UMMS lab of Madelyn R. Schmidt, PhD, is the development of gene transfer techniques that can be used to correct these types of genetic defects. Gene therapy, however, must first be modeled in animals, usually mice, and shown to be safe and effective before human trials can begin.

"Grant support from the Worcester Foundation has enabled our laboratory to characterize a new mouse model, called a 'transgenic,' that is a powerful tool in the study of gene transfer and function in normal cells," explained Dr. Schmidt, professor of molecular genetics & microbiology.

Transgenic mice are born from fertilized eggs injected with DNA that the resulting mouse usually absorbs. This expansion of genes allows scientists to put the "knockout" procedure to work; the developing mice are injected with additional cells that have been manipulated in culture so that existing functions are "knocked out." This

enables researchers to identify specific gene functions and analyze how the knocked-out gene's inactivation affects the entire organism.

"We're really excited about what we can do with this new mouse model. No other available transgenics offer the same opportunities for gene therapy and analysis," Schmidt continued. "We've been able to demonstrate that we can transfer the expressive genes in lymphocytes taken directly from our transgenic animals, which gives us a unique opportunity to study gene function and ultimately correct genetic defects."

Two papers on the project are currently being prepared for publication, according to Schmidt.



Lou Iandoli, Peter Hillary, Marty Martel and Mort Sigel

## Ascending to New Heights: The Hudson Hoagland Society



Warner Fletcher and Peter Hillary

Named to honor the memory of the co-founder of the Worcester Foundation for Biomedical Research, the Hudson Hoagland Society recognizes individuals who make yearly leadership gifts of \$1,000 or more to the Foundation's Annual Research Fund. Chaired by Penelope B. Rockwell, this society of individuals committed to assisting the Foundation with its biomedical research mission, added 23 new members in the last year, bringing total membership to nearly 200 from around the world.

**The Society has raised over \$2.5 million since its inception in 1985, support that provides needed resources for scientists from the combined Worcester Foundation/UMMS enterprise to pursue new avenues of inquiry.**

On June 9, Peter Hillary, a member of one of the most famous adventuring families of the century, addressed the 14th annual meeting of the Hudson Hoagland Society. Hillary made international news in 1999 when he and two companions made the first-ever ascent of the Shackleton Glacier, establishing a new route to the South Pole.



Hudson Hoagland Society Chair  
Penelope Rockwell and Peter Hillary

In November, members of the Society attended a talk by John L. Sullivan, MD, renowned AIDS researcher and director of the UMMS Office for Research, discussing his hope that there will be an AIDS vaccine available within the next decade. Dr. Sullivan also reported on nevirapine drug trials taking place in South Africa that are helping curb the rate of AIDS transmissions from mothers to their babies.

### Executive Committee Members

Penelope B. Rockwell, *Chair*

Sarah G. Berry

Tina Bilazarian

Robert D. Blute Jr.

Diane G. Dalton

Warner S. Fletcher

Elizabeth O. Frem

Joseph B. Gill

Laura Glazier

Abraham W. Haddad

Patricia A. Halpin

Prentiss C. Higgins

Maurice H. Martel

Janet L. Montgomery

Phyllis Pollack

Robert Schultz

Morton H. Sigel



## Driving Research: The Worcester Foundation Auxiliary



The Worcester Foundation Auxiliary continued its 52-year tradition in 1999 of building community support for the Worcester Foundation's missions of research and education. The group's primary fund-raising activity was the Wachusett Old Car Club's 25th Annual Antique Auto Show, held September 26 at Wachusett Mountain Ski Area in Princeton. Over 2,000 people attended this major event, helping to raise some \$10,000 to benefit the Auxiliary's Graduate Research Fellowship.

The auto show, chaired by Wayne and Bonnie Prescott, succeeded the Auxiliary's annual horse show, held for the past 27 years, and attracted entries from throughout the Northeast—over 250 autos representing 30 classes. Music, refreshments and sky rides up the mountain were also available during the sun-drenched day. The success of the auto show was due in large part to the support of the Crowley family, which owns Mt. Wachusett Ski Area; the late Frances Crowley was a longtime member and past president of the Auxiliary.

The funds raised were designated to support the fifth annual Worcester Foundation Auxiliary Graduate Fellowship. Diane Casey, a PhD candidate working in the laboratory of George B. Witman III, PhD, the George F. Booth Chair of Basic Sciences and UMMS professor of cell biology, has been awarded the fellowship for a second year. Casey is currently studying cell motility, or how cells move, a critical factor in reproduction and in diseases such as cancer.

### 1998/1999 Executive Board

Betsy Giles  
*President*

Sally Holden  
*Vice President*

Judy Langlois  
*Secretary*

Susan McNamara  
*Corresponding Secretary*

Marilyn Dillman  
*Treasurer*

Florence Stowe  
*Assistant Treasurer*

Bonnie Prescott  
*Nominating Committee Chair*



*Judy Langlois, 1999/2000 president of the Worcester Auxiliary, with Diane Casey, a PhD candidate who has been awarded the Auxiliary Graduate Fellowship for a second year.*



## Applauding Advocacy: Private Support for Research

### Named Endowment Funds

The Worcester Foundation for Biomedical Research is grateful to the following donors and families who have established endowed positions or funds to provide ongoing support for research and education programs, ensuring the success of biomedical research programs. For information on establishing a named fund, please contact Mary Flynn Myers, Director of Major Gifts at (508) 856-1411.

#### Named Funds Providing Support for Endowed Positions

##### *Vitold Arnett Endowed Professorship Fund*

Established in 1998 through a generous gift from Vitold Arnett MD, PhD, to endow the Vitold Arnett Professorship in Cell Biology. Dr. Arnett established the fund to honor the memory of the Worcester Foundation's co-founder, Dr. Hudson Hoagland, in thanks for providing Dr. Arnett with early career direction.

##### *Robert W. Booth Endowed Fund in Memory of George F. Booth*

Established in 1992 as an endowment fund through a gift from Mr. Robert W. Booth's fund in memory of his father, George F. Booth, at the Greater Worcester Community Foundation to provide support for research. In 1998, the Booth Fund made an additional generous gift to establish the first endowed chair in basic research, the George F. Booth Chair of Basic Sciences.

##### *David J. Freeland Memorial Endowment Fund*

Established in 1987 in loving memory of their son David by I. Robert and Aviva Freeland, their family and friends. In 1998, this fund was combined with an additional generous gift from the Freelanders to the University of Massachusetts Medical School to create the David J. Freeland Memorial Professorship in AIDS Research.

##### *H. Arthur Smith Endowed Chair Fund*

Established in 1998 through a generous gift from the H. Arthur Smith Charitable Foundation to endow the H. Arthur Smith Chair for Cancer Research. Mr. Smith was a longtime, generous donor to cancer research at the Worcester Foundation during his lifetime.

#### Named Funds Providing Support for Graduate and Postdoctoral Education

##### *Dr. Mark Steven Albion Fellowship Fund*

Established in 1998 by Worcester Foundation Auxiliary member Ms. Leni Joyce to create a graduate fellowship in honor of her son Mark's birthday.

##### *George I. Alden Education Fund*

Established in 1991 through a major challenge grant from the George I. Alden Trust to attract new support for the Foundation's educational programs.

##### *Anonymous Fund*

Established in 1979 by a generous anonymous donor to benefit postdoctoral training and education.



*Trustees of the H. Arthur Smith Charitable Foundation visited the University of Massachusetts Medical School and Worcester Foundation in the summer of 1999. Pictured left to right are: Richard B. Vallee, PhD, H. Arthur Smith Chair for Cancer Research; Smith Fellow Dmitry A. Samarsky, PhD; Smith Foundation Trustees Pamela A. Martin and Eugene C. Schofield; Attorney Matthew F. Erskine, chairman of the H. Arthur Smith Charitable Foundation; Smith Foundation Trustee Charles B. Campbell (since deceased); WFBF Director Thoru Pederson, PhD; Smith Foundation Trustee Janice E. Martin; and Smith Fellow Jian Yang, PhD.*

***Charles B. and Abigail B. Knight Memorial Fund***

Established in 1994 through a generous bequest by Mr. Kenneth H. Knight in memory of his grandparents, Charles and Abigail, in support of educational activities.

***Patricia M. O'Connell Summer Student Fund***

Established in 1994 in loving memory of Mrs. Patricia M. O'Connell by her husband, Worcester Foundation scientist Dr. Robert O'Connell, friends and family to benefit the summer student education program.

***Mark M. Weisberg Memorial Fund***

Established in 1980 by the family of Mr. Mark M. Weisberg to benefit graduate or postdoctoral student research in cancer-related studies.

***Grant Winthrop Fellowship Fund***

Established in 1996 through a gift from the Joukowsky Family Foundation to honor Worcester Foundation Trustee Grant Winthrop and his steadfast commitment to research excellence. Income to benefit graduate or postdoctoral education.

**Named Funds Providing Support for Research**

***Chester Baylis Jr. Memorial Fund***

Established in 1998 through a generous bequest from longtime Worcester Foundation trustee Mr. Chester Baylis to support promising basic biomedical research.

***Barbara G. Brown Fund***

Established in 1998 through a generous bequest from longtime Worcester Foundation friend Barbara Gifford Brown to support biomedical research.

***Fred Harris Daniels Fund in Memory of F. Harold Daniels***

Created in 1992 through a generous endowment gift from the Fred Harris Daniels Foundation for the benefit of biomedical research.

***Warren A. and Ruth H. Ellsworth Fund***

Established in 1989 by the trustees of the Ruth H. and Warren A. Ellsworth Foundation for the benefit of biomedical research.

***Elise and Monroe England Endowed Fund for Biomedical Research***

Established in 1999 by generous friends Elise V. and Monroe B. England for the benefit of biomedical research, preferably in the field of diabetes.

***Samuel Frank Fund***

Established in 1993 by a generous bequest of Mr. Samuel Frank for the benefit of biomedical research.

***General Endowment Fund***

A permanent fund of the Worcester Foundation for general gifts to the endowment for the benefit of biomedical research and education.

***Lydia Gifford Fund***

Established in 1998 by a generous bequest from Lydia Gifford for the benefit of biomedical research.

***Mimi Aaron Greenberg Cancer Research Institute***

Created in 1976 as a living memorial to Mimi Aaron Greenberg, widely admired and loved for her vibrant warmth and humanity. The Institute provides support for cancer research.

***Chester D. Heywood Memorial Fund***

Established in 1979 by generous bequests from Rachel W. and Chester D. Heywood for the benefit of biomedical research.

***Higgins Family Fund***

Established in 1991 with a gift from members of the Higgins family for the benefit of biomedical research.

***Evelyn S. and Judith M. Isaacson Memorial Biomedical Research Fund***

Created in 1983 by Mr. and Mrs. Joseph Isaacson in loving memory of their daughter Judith, and amended in 1992 to include Mrs. Evelyn Isaacson upon her passing, this fund benefits biomedical research.

***Myles Morgan Memorial Fund***

Established in 1979 by family, friends and business associates to honor the memory of Mr. Myles Morgan, incorporator and founding trustee of the Worcester Foundation, for the benefit of biomedical research.

***Joseph Persky Biomedical Research Fund***

Established in 1980 to honor the memory of Mr. Joseph Persky, Worcester industrialist, philanthropist and longtime friend of the Worcester Foundation, for the benefit of biomedical research.

***Martin M. Pollak Fund***

Established in 1990 in honor of Worcester Foundation Trustee Mr. Martin M. Pollak for the benefit of biomedical research.

***Harold R. and Helen G. Rafton Fund***

Established in 1982 through the generous bequests of Mr. Harold R. Rafton and Mrs. Helen G. Rafton to provide support for general purposes.

***Morton and Vivian Sigel Fund for Biomedical Research***

Established in 1998 by the Sigels' children in honor of their parents and to celebrate Board Chairman Mr. Morton H. Sigel's selection as the 1998 Hudson Hoagland Award recipient given in recognition of distinguished service to the Worcester Foundation.

***Helen W. Stoddard Fund***

Established in 1999 through a generous bequest from Worcester philanthropist Mrs. Robert W. Stoddard. Mrs. Stoddard was a longtime friend of the Worcester Foundation and, at her direction, her fund supports biomedical research.

***Worcester Foundation for Biomedical Research Scholars Fund***

Established in 1999 by a vote of the Worcester Foundation Board of Trustees to consolidate three major, unrestricted endowment funds: the Einar W. and Gertrude Sundberg Fund (1988), the Anna P. Hoagland Memorial Fund (1971) and an endowed fund established by a generous anonymous donor (1993). The income from these funds will be awarded to promising, newly recruited scientists at the University of Massachusetts Medical School. Recipients hold the title of Worcester Foundation for Biomedical Research Scholars.

***Wyman-Gordon Fund***

Established in 1988 through a generous gift from the Wyman-Gordon Company for the benefit of biomedical research.

**Named Funds Providing Support for Scientific Lectures**

***M. C. Chang Memorial Fund***

Created in 1995 by family, friends and colleagues to honor Dr. M. C. Chang's pioneering contributions to the study of reproductive biology and early development. The income from this fund is used to sponsor M. C. Chang Distinguished Lectures in the field of reproductive biology.

***Gregory Pincus Memorial Fund***

Established in 1967 in memory of Dr. Gregory G. Pincus, renowned reproductive biologist and co-founder of the Worcester Foundation. The fund benefits the Gregory Pincus Memorial Lecture.

***Planned Gifts and Bequests***

Each year, the Worcester Foundation receives a number of bequests from individuals who have demonstrated their commitment to the Worcester Foundation and biomedical research through a bequest intention, gift annuity, trust or other planned gift.

The Gregory Pincus Circle recognizes those individuals who have included the Worcester Foundation in their estate plans and is named to honor the memory of Worcester Foundation co-founder Dr. Gregory G. Pincus, who discovered the birth control pill. Members share what was Dr. Pincus' belief, that basic research offers the best hope for understanding and curing disease. Through their planned gifts, Pincus Circle members help to extend that spirit of hope to future generations by providing financial resources to fuel tomorrow's research breakthroughs.

The Pincus Circle invites inquiries from other friends of the Worcester Foundation who wish to make a planned gift in support of research.

***Bequests Received This Year (July 1, 1998 – June 30, 1999)***

Joseph Abusamra  
Barbara G. Brown  
Elizabeth K. Smith  
Mrs. Robert W. Stoddard  
Helen A. Toombs

***Gregory Pincus Circle Membership***

Michael P. Angelini, Esq.  
Anonymous (5)  
Dr. Vitold Arnett  
Mr. Norman H. Arter  
Dr. Étienne É. Baulieu  
Mrs. Rosamond Bennett  
Ms. Susan Marie Boutiette  
Dr. Jerry R. Brooks  
Dr. and Mrs. Edward C. Budnitz  
Mrs. Cheney E. Cook  
Mr. Robert Cushman  
Mr. Richard C. Daniels  
Mr. and Mrs. Albert V. Ferguson  
Jack Fishman, PhD  
Mrs. Phoebe Ann Freeman  
Dr. Orrie M. Friedman  
Mrs. Edwin K. Golrick  
Mr. and Mrs. James H. Harrington  
Mr. and Mrs. John J. Hayden  
Richard Horton, MD  
Ms. Dorothy M. Hunt  
Mr. and Mrs. Emanuel R. Lerner  
Dr. John A. McCracken  
Dr. Josephine L. Murray  
Mrs. Mary Flynn Myers  
Mr. and Mrs. John M. Nelson  
Mr. Guy W. Nichols  
Mrs. Marion S. Palm  
Mr. and Mrs. Richard Prouty  
Mr. and Mrs. Clesson A. Robbins  
Penelope B. and  
Sherburne B. Rockwell Jr.  
Christina and Robert Schultz  
Dr. and Mrs. Kenneth A. Senter  
Morton and Vivian Sigel  
Mrs. Walter E. Werber  
Mr. William A. Wheeler III

*The Annual Research Fund*

Gifts of all sizes are made to the Worcester Foundation through the Annual Research Fund, which includes a growing leadership donor club, the Hudson Hoagland Society. Each year, nearly a thousand donors contribute unrestricted support which is used to assist investigators at the University of Massachusetts Medical School as they pursue promising leads to uncover the causes of cancer, AIDS, Alzheimer’s disease, Lou Gehrig’s disease and other devastating illnesses. Unrestricted gifts also provide funds for the support and training of future scientists. The 1998-99 Annual Research Fund generated \$296,546 in unrestricted support from friends of the Worcester Foundation. We are grateful for their generosity and thank them for their continuing support.

**Hudson Hoagland Society Members**  
*(July 1, 1998 – December 31, 1999)*

*Donors of \$5,000 or more*

Anonymous (1)  
Mr. and Mrs. Richard Prouty

*Donors of \$2,500 to \$4,999*

Dr. and Mrs. Michael Bernhard  
Mr. and Mrs. Robert A. Bernhard  
Mrs. Howard M. Booth

Mr. and Mrs. James McConnell Clark  
*Fidelity Investments*  
*Charitable Gift Fund*

Dr. Josephine L. Murray

*Donors of \$1,000 to \$2,499*

Anonymous (2)  
*Community Foundation*  
*of Massachusetts (1)*  
Mary Ann and Bill Abodeely  
Evelyn Silver Acaso and Eduardo Acaso  
Marie and Mike Angelini  
Dr. Vitold Arnett

Mr. and Mrs. Joseph J. Bafaro  
Trevor O. and Patricia K. Bartram  
Jack and Susan Bassick  
Helen and William Beekman  
Bruce S. Bennett and  
Norma J. Sandison  
*Fiduciary Charitable Foundation*

Dr.\* and Mrs. Robert E. Bennett  
Allen and Sarah Berry  
Dr. Jean M. Borgatti and  
Dr. Donald G. Morrison  
Mr. and Mrs. Windsor H. Bigelow Jr.  
Seth and Tina Bilazarian  
Mr. and Mrs. George S. Bissell  
Mr. and Mrs. Kyver M. Blumstein  
Dr. Robert and Elizabeth Blute  
Joan Bok  
Mr. George F. Booth II  
Mr. Robert W. Booth  
Bari Boyer and Marshall Katzen  
*T.O.P. Jewish Foundation, Inc.*  
Christopher and Charlotte Bramley  
Dr. and Mrs. Edward Bresnick  
Jerry R. Brooks, PhD  
Dr. and Mrs. Edward C. Budnitz  
*Fiduciary Charitable Foundation*

Mr. and Mrs. Russell L. Carson  
Zelda and Samuel Chafetz  
Henry and Elaine Ciborowski  
Christos and Mary T. Cocaine  
P. Kevin and Clare K. Condron  
Rebecca B. Crocker  
Jeanne Y. Curtis  
Robert and Mary S. Cushman  
Dr. and Mrs. Mark Cutler  
Mel and Sandy Cutler  
Drs. Michael P. Czech and Silvia Corvera

Mr. and Mrs. David F. Dalton  
Mr. and Mrs. Bruce G. Daniels  
Richard C. Daniels  
Marjorie and Theodore Deitz  
Miss Louise I. Doyle

James and Alma Ebert  
Monroe and Elise England  
Mr. Elisha W. Erb

Mr. Allan Farber  
Barbara Elliott Fargo  
H. Kimball and Nancy W. Faulkner  
Beatrice A. Feingold  
Mary and Warner Fletcher  
Dr. and Mrs. Judah Folkman  
Richard and Joan Freedman  
*Jewish Community Endowment*  
*Foundation*

I. Robert and Aviva Freeland  
Esther and Howard G. Freeman  
Liz and Bob Frem

Barbara and Zachary Gianaris  
Lisa and Peter Gibbs  
Mr. and Mrs. Joseph B. Gill  
Dr. Wayne and Laura Glazier  
Mr. Allen M. Glick  
Mr. and Mrs. Edward M. Glick  
Mr. and Mrs. John Goodrich  
Mrs. Haskell R. Gordon

Drs. Joel Gore and  
Deborah M. DeMarco  
Mr. and Mrs. Richard C. Gotz  
Drs. Ivan and Noreen Green  
Nathan and Barbara Greenberg  
Joann M. and David P. Gruber

Mr. and Mrs. William P. Haas  
Dr. Abraham Haddad and Linda Haddad  
Dr. and Mrs. Thomas F. Halpin  
Mr. Francis A. Harrington Jr.  
Mr. and Mrs. James H. Harrington  
Evelyn S. Heller

*In memory of Hyman Heller*  
Mr. and Mrs. John Herron Jr.  
Mr. and Mrs. William J. Hewitt  
Mrs. Milton P. Higgins  
Prentiss and Polly Higgins

*Fidelity Investments*  
*Charitable Gift Fund*  
Mr. and Mrs. William J. Hill  
Mahlon and Olley Hoagland  
Don and Nancy Hodes  
Dianne E. Horgan  
Mr. and Mrs. Proctor W. Houghton  
Charles and Louise Hugo

Louis C. and Ann D. Iandoli  
*Fidelity Investments*  
*Charitable Gift Fund*  
Dr. and Mrs. Richard S. Irwin

Frederick and Eleanor Jackson  
Frances and Howard Jacobson  
Mr. and Mrs. John Jeppson  
V. Craig Jordan, PhD, DSc and  
Monica Morrow, MD  
Ms. Leni Joyce

Rayna Keenan and John F. Keenan  
Mr. Thomas L. Kempner  
Drs. Daniel L. Kilpatrick and  
Debra Mullikin-Kilpatrick  
Judith S. and Tony King  
Jean Krintzman

*In memory of Abraham Krintzman*  
Edward and Iris Krintzman  
Pauline F. Krull

Dr. and Mrs. Aaron Lazare  
Mrs. T. Charles Lee  
David Lemoine and  
Mary Cotter-Lemoine  
Mr. and Mrs. George Levine  
Anne A. Levine\*  
Stephen and Valerie Loring

Mr. and Mrs. William D. Maney  
Thomas D. Manning  
Dr. and Mrs. Maurice Martel  
Steve and Merrill Marx  
Robert K.\* and Nancy Massey  
Sandra Mayrand and Paul Gallagher  
Dr. and Mrs. Glenn Adair Meltzer  
Don and Mary Melville

*\*deceased*

Dr. and Mrs. William C. Meyers  
Laurence K. and Shirley S. Miller  
Mr. and Mrs. Jay H. Montgomery  
Vivian B. Morales  
Mr. and Mrs.\* Thomas R. Mountain  
James J. and Patricia Moynihan  
Richard and Mary Myers

Linda and John Nelson  
Guy W. Nichols  
Miss Evelyn M. Norsten

Dr. and Mrs. Robert J. O’Connell

Mae and George Packard  
Mr. and Mrs. Jonathan Palley  
Mrs. Marion S. Palm  
Ms. Larri Tonelli Parker and  
Mr. George Parker  
Shirley and George Pearse  
Drs. Thoru and Judith Pederson  
Marlene and David Persky  
Mr. and Mrs. Howard Peterson  
Bill and Sally Pettit  
Carole and Riccardo Pigliucci  
Stephen and Cynthia Pitcher  
Drs. Phyllis Pollack and Peter Metz  
Mr. and Mrs. Martin M. Pollak

Mrs. Joseph H. Quick  
Dr. and Mrs. Robert M. Quinlan

Mrs. Karl Riemer  
Einar Paul and Joyce Robsham  
Dr. Kenneth L. and Carol Rock  
Penelope B. and  
Sherburne B. Rockwell Jr.  
Ralph and Shirley Rose  
Sidney and Rosalie Rose  
Alonzo H. Ross and  
Elizabeth J. Luna  
Beverly and Oscar Rudnick  
Dr. and Mrs. Paul S. Russell

Joan and Lester Sadowsky  
Christina and Robert Schultz  
Norman L. Sharfman  
Stanley and Carol Shustak  
Robert M. and Shirley Siff  
Morton and Vivian Sigel  
Robert and Susan Sigel  
Mrs. Willard S. Simpkins  
Dr. and Mrs. Greenfield Sluder  
Ms. Barbara H. Smith  
Miss Ethel O. Sohlberg  
Mr. Richard J. Stanton  
Mr. and Mrs. Dale L. Staupe  
Mrs. Robert W. Stoddard\*  
Mr. and Mrs. John C. Stowe  
John and Lynn Sullivan

Dr. Daniel G. and Madeleine K. Tear  
Mr. and Mrs. Sumner B. Tilton Jr.  
Mr. James R. Tobin

*\*deceased*

Dr. Richard B. Vallee and  
G. Susan Vallee  
Herbert and Jean Varnum

Dr. and Mrs. Allen D. Ward  
Joy E. Wetzel  
Mark and Barbara Wetzel  
Betty and Brownell Wheeler  
Grant and Hope Winthrop  
George and Rita Witman  
Rosalie S. Wolf

William A. and Judith S. Yoffie

**Additional Donors**  
*(July 1, 1998 – June 30, 1999)*

*Donors of \$500 to \$999*

Mrs. Adelaide D. Bagley

Mr. Hans de Veer

Mrs. German H. H. Emory

Mrs. Merrill Farber  
*Jewish Community*  
*Endowment Foundation*

Mr. Harvey J. Frem\*  
Mr. and Mrs. Mark W. Fuller

Mrs. Marcel Gut  
*In memory of Dr. Marcel Gut*

John and Lea Hench

Mr. and Mrs. Peter G. Sachs

Mr. and Mrs. Theodore A. Underwood

*Donors of \$250 to \$499*

Mr. R. Palmer Baker Jr.  
Mr. and Mrs. John D. Barnard  
Mr. and Mrs. Philip C. Beals  
Mr. William Bernhard  
Mr. and Mrs. John M. Bradley  
Mr. and Mrs. George L. Brownell II

Mr. and Mrs. Joseph R. Carter  
*Greater Worcester Community*  
*Foundation, Inc.*  
Mr. George A. Clark

Mrs. Elizabeth M. Davis

Mr. and Mrs. William G. Fallon Jr.  
Mr. and Mrs. Robert Forbes

Dr. W. Morton Grant

Ms. Susan J. Hessel  
Dr. and Mrs. Donald Hight  
Dr. and Mrs. Timothy B. Hopkins

Mrs. Jeanne Blum Kissane  
David Korn, MD  
Mr. and Mrs. William C. Kunkler  
*Fidelity Investments*  
*Charitable Gift Fund*

Mr. and Mrs. Allen Lederman

Dr. and Mrs. John M. Moran  
*Fidelity Investments*  
*Charitable Gift Fund*

Mr. and Mrs. Charles H. Moser  
Mr. Kenneth F. Mountcastle Jr.

Mrs. Ralph Riganati

Mrs. John D. Stubbs

Mr. and Mrs. Michael P. Tsotsis  
Mr. Gordon M. Tuttle

Mr. and Mrs. Fred N. Webster

*Donors of \$100 to \$249*

Dr. and Mrs. Eero A. Aijala  
Dr. and Mrs. Howard J. Alfred  
Mr. and Mrs. Ernest W. Anderson  
Drs. M. Sawkat and Ursula Anwer  
Mr. and Mrs. Eli R. Aramony  
Mr. Norman H. Arter

Laurie Raphaelson Ballantine, Esq.  
Mrs. Marion P. Bartlett  
Mr. and Mrs. Robert G. Barton  
Mr. and Mrs. Fritz E. Bauer  
Myrna L. Bayliss  
Mr. and Mrs. Harry G. Bayliss  
Mr. and Mrs. Joseph P. Beaney  
Mr. and Mrs. Robert W. Beckwith  
Mr. Charles B. Black  
Mrs. F. Turner Blake Jr.  
Mr. Jonathan D. Blake  
Mrs. John C. Bletzinger  
Mrs. Harry E. Boorky  
Ms. Libby Borden  
Mr. David D. Borland  
Mr. and Mrs. Carleton G. Bridgham  
Mr. and Mrs. Caleb C. Brown III  
Mr. and Mrs. James R. Buonomo  
Mr. and Mrs. William F. Burt  
Mrs. Lilyan Burwick  
Mr. Douglas P. Butler

Mr. and Mrs. Donald W. Carter  
Mr. and Mrs. John E. Chapman  
Mrs. Irene Clason  
Miss Sarah E. Cohen  
Mrs. Cheney E. Cook  
Polly and Fairman Cowan  
Mr. and Mrs. Thomas J. Cox Jr.  
Mr. and Mrs. Bigelow Crocker Jr.  
Mr. and Mrs. Norman C. Cross

Mr. and Mrs. Gilbert S. Davis  
Mr. and Mrs. David L. Dean  
Mrs. Anthony J. Detarando  
Mr. and Mrs. Donald F. Dillman  
Mr. and Mrs. Robert J. Donoghue  
Mrs. Ralph I. Dorfman  
Mr. and Mrs. Robert W. Doty

Mr. Robert A. Eddy  
Mr. and Mrs. Ralph L. Ellis  
Mr. Robert W. Ellis

Miss Louise T. Erskine  
Ms. Madeleine M. Etre

Mr. David R. Fairbanks  
Mrs. Joan H. Fanning  
Mr. and Mrs. Alan L. Feingold  
Mr. and Mrs. Eugene A. Fischer  
Mrs. Lawrence H. Fisher  
Mr. Justin L. Fletcher  
Ms. Jean F. Funk

Mr. and Mrs. Wyatt Garfield  
Mrs. Gerald L. Gaudette Jr.  
Dr. Bernard J. Gersh  
Mrs. Joseph Goldberg  
*In memory of  
Judge Joseph Goldberg*

Mr. David H. Green

Cdr. and Mrs. Howard P. Handleman  
Mrs. Sydney Harwood  
Mrs. Mary Bullard Hennessy  
Mr. and Mrs. Henry C. Horner  
Mr. and Mrs. Bruce E. Houghton  
Dr. and Mrs. Edwin L. Hubbard  
Mr. and Mrs. John D. Hunt

Mrs. Michael Iagallo Sr.  
Mr. and Mrs. Dan Isaacson

Mr. and Mrs. John Jacobson  
Mr. Barry Jaffe  
Dr. and Mrs. Robert A. Johnson

Ms. Joyce L. Karchmar  
Mr. and Mrs. Zarvin J. Kasparian  
Drs. I. Charles and Janice Kaufman  
Dr. and Mrs. Harry Kavooagian Jr.  
Mr. Henry W. Keyes  
Mr. and Mrs. Gordon R. Knight  
*In memory of Betty Knight*

Mr.\* and Mrs. William W. Knight III

Dr. and Mrs. Donald W. Light  
Mr. and Mrs. Lennart Lindberg  
Dr. Brian Little  
Mr. and Mrs. Richard S. Lovelace  
Mrs. Pauline M. Lundgren

Mr. Robert E. Mainer  
Mr. and Mrs. Alan V. Malkasian  
Mrs. John L. Malone  
Mr. and Mrs. Robert C. McCray  
Mr. and Mrs. Winthrop H. McGown  
Mr. and Mrs. John L. McKie  
Mr. and Mrs. Ralph Mensch  
Mr. and Mrs. Douglas Midwood  
Mrs. Arthur Miller  
Mr. and Mrs. Frederick Miller  
Mrs. Andronika Mitsis  
Mr. and Mrs. David S. Morgan  
Mr. and Mrs. Paul S. Morgan  
Mr. Joseph E. Murray

Dr. and Mrs. Kenneth L. Noller

Mr. and Mrs. Roger G. Ormerod

Mrs. Henrietta N. Paine  
Mr. Joseph Pandolf  
Dr. George D. Pappas  
Ms. Leona A. Paslaski  
Mr. Everett B. Person  
Mr. and Mrs. Stephen P. Pollak  
Mr. and Mrs. Robert P. Powers

Mr. and Mrs. Saul I. Reck  
Mr. and Mrs. Clyde S. Reynolds  
Mr. and Mrs. Clesson A. Robbins  
Mr. Einar Paul Robsham  
Mrs. Reba I. Rottenberg  
Larry and Nancy Rowe  
Mr. and Mrs. Sanford H. Russell  
Mr. and Mrs. Francis W. Ryan

Miss Julia A. Salmon  
Dr. Edward E. Seelye  
Mr. and Mrs. Philip Shack  
Dr. and Mrs. Gilbert L. Shapiro  
Mrs. Milton S. Sheftel  
Mrs. Abraham Sherman  
Mr. and Mrs. Sumner Silver  
Mrs. Arthur K. Smith  
Mr. and Mrs. Richard D. Steinberg  
Dr. and Mrs. Mark E. Stoker  
Mr. and Mrs. Richard D. Stone

Mrs. John R. Townsend  
Ms. Ann W. Tracy  
Mr. William J. Turbeville Jr.  
Dr. and Mrs. Horatio J. Turner

Mr. Brian F. Vigneaux

Mrs. Constance V. R. White  
Professor and Mrs. David Whittingham  
Mr. Ralph O. Winger  
Dr. and Mrs. Hans M. Wolff

Mrs. R. Mildred Zuckerman  
Ms. Anne Zuckerman

***Donors of up to \$99***

Mr. David L. Ammen  
Mr. and Mrs. Fred R. Aramony  
Mrs. Thomas F. Armstrong  
Mr. and Mrs. Neil N. Ault

Mr. Randall S. Barko  
Anne and David Barlow  
Mr. and Mrs. Alfred E. Barry  
Mr. and Mrs. Peter Barsoum Jr.  
Ms. Rita E. Battista  
Mr. and Mrs. Steven K. Baum  
Mrs. Stacia S. Baxendale  
Mr. and Mrs. George L. Bayrouty  
Mr. and Mrs. Thomas F. Beatty  
Mr. Robert D. Belden  
Mr. Samuel Belluardo  
Ms. Janice Benicek  
Mr. and Mrs. Richard Benjamin  
Dr. Noe N. Benoit  
Mr. and Mrs. Paul J. Blais  
Mr. and Mrs. Dwight C. Blake

Mrs. George D. Blakeslee  
Mrs. Frank X. Bonneau  
Mr. and Mrs. Robert J. Boylan  
Mr. Arthur F. Braman  
Mr. and Mrs. Edwin A. Brewer  
Mr. and Mrs. H. Day Brigham Jr.  
Mr. Harvey Brooks  
Mr. Gregory N. Brown  
Mr. and Mrs. Robert S. Brunell  
Mr. and Mrs. Robert C. Bukowiecki  
Mr. and Mrs. Charles M. Butterfield

Mrs. William J. Cadigan  
Mrs. George Cagan  
Mrs. Mary J. Cargan  
Mr. and Mrs. Thomas S. Carr  
Mr. Sidney T. Carter  
Mr. and Mrs. Joseph C. Casdin  
Mrs. Nell Casey  
Dr. and Mrs. Philip F. Caushaj  
Miss Marion A. Cawley  
Mrs. Helen Charbonneau  
Mrs. Albert B. Chervin  
Mr. John Chapman Chester  
Ms. Eunice E. Christopher  
Dr. and Mrs. Richard E. Church  
Mrs. Ellen L. Cleaves  
Mr. Bruce Cohen  
Ms. Julia A. Cooney  
Mrs. Betty L. Cooper  
Ms. Miriam Cotton  
Mrs. James E. Coyne Jr.  
Mr. and Mrs. Allen A. Cramer  
Dr. and Mrs. William J. Croft  
Mrs. Darcy Curwen

Mr. and Mrs. Norman G. Danielson Sr.  
Mr. and Mrs. Kenneth L. Davidson  
Mr. and Mrs. Robert I. de Sherbinin  
Mr. and Mrs. Thomas M. Decatur  
Mrs. Elizabeth C. Decker  
Mr. and Mrs. Robert A. Delmoro  
Miss Sophie Demis  
Ms. Joan H. Denton  
Mrs. Edward A. Diamond  
Ms. Constance E. Dion  
Mr. and Mrs. Warren C. Dole  
Mrs. Harriet Dolin  
Mr. and Mrs. Wells B. Dow  
Mrs. Margaret W. Drawbridge  
Mrs. William T. Dryden

Mr. and Mrs. Norman S. Eddy  
Mrs. Robert Egoodkin  
Robert L. Ehrmann, MD  
Mr. and Mrs. Norman R. Ekholm  
Mr. and Mrs. Guy A. Ercolani  
Mr. and Mrs. John C. Erickson  
Mr. Francis G. Ermilio  
Eli A. Etscovitz, MD

Mr. Jack E. Feldheimer  
Mr. John S. Ferdella  
Mr. and Mrs. Albert Fins

*\*deceased*

Mrs. D. Donald Fiorillo  
Mr. and Mrs. Raymond J. Foley  
Mr. and Mrs. Roland E. Franzen  
Mr. J. Horl Freiday  
Mr. and Mrs. Bernard Friedlander  
Mr. and Mrs. Howard J. Fuller Sr.  
Mr. and Mrs. Russell E. Fuller  
Mrs. Dorothea M. Furman

Mr. John P. Gagliardo  
Mr. and Mrs. George A. Garrison  
Mrs. Simon Garshman  
Mr. and Mrs. Norman E. Gebo  
Mr. and Mrs. Maurice Gersh  
Mr. and Mrs. Edwin S. Giles Jr.  
Alice Goldstein  
Mr. and Mrs. Simon H. Goldstein  
Mr. Hubert F. Gordon  
Hon. and Mrs. Nathaniel Gorton  
Mrs. I. George Gould  
Mr. John E. Graham, CPA  
Ms. Janet M. Greffrath  
Mr. and Mrs. Thomas McLean Griffin  
Dr. D. Geraldine Guertin  
Mr. and Mrs. Frank G. Gustafson

Mr. and Mrs. James A. Hall  
Mrs. Robert L. Hammond  
James Hamos, PhD and  
Andrea Warren Hamos, PhD  
Ms. Muriel Hart  
Mr. Timothy J. Haynes  
Dr. Felix Heimberg  
Dr. and Mrs. John W. Henderson  
Mr. and Mrs. Arthur L. Herring  
Mr. and Mrs. Merrill W. Higgins  
Dr. and Mrs. Yale A. Hirshberg  
Mrs. Samuel C. Hoffman  
Ms. Gwendolyn K. Holmes  
Ms. Anna M. Hovenesian  
Mr. and Mrs. John D. Hughes Jr.  
Mr. and Mrs. Stephen S. Hull  
Mr. and Mrs. Everett A. Hultquist  
Reva Hurwitz  
Ms. Doris M. Hutchinson

Mrs. Carle A. Johnson  
Mrs. Diana J. Johnson  
Mr. and Mrs. George O. Johnson  
Ms. Mildred E. Johnson, NP  
Mr. and Mrs. Paul K. Johnston  
Mr. and Mrs. William E. Jordalen

Mr. Louis J. Kern  
Mrs. Thomas W. Kingdon  
Mr. and Mrs. Moses R. Klipper  
Mr. Henry J. Kokernak  
Susan Ann Kotlier, MD  
Mr. and Mrs. Harry P. Kotseas  
Dr. and Mrs. Joseph R. Kuh  
Mr. and Mrs. Edward F. Kurtz Jr.

Clement E. LaCoste, MD  
Mr. and Mrs. Joseph R. LaMarche  
Dr. and Mrs. J. Halcombe Laning

Mr. Richard A. Leavitt  
Mr. and Mrs. Stanley B. Lee Jr.  
Mrs. Robert I. Lehman  
Mrs. Madelyn S. Levenson  
Dr. and Mrs. Peter H. Levine  
Mrs. Sidney D. Lewis  
Mr. and Mrs. James A. Lidgate  
Mrs. Brayton Lincoln  
Mrs. Calvin R. Lindblad  
Mr. and Mrs. David E. Lloyd  
Dr. and Mrs. Robert E. Losert  
Mrs. Anne M. Lyell

Mr. John Macarchuk  
Mrs. Ruth Macaulay  
Barbara and Ronald Macaulay  
Ms. Vivian Maedge  
Mr. Robert Marcucci Jr.  
Mr. and Mrs. Jacob Margolis  
Mrs. Raymond J. Marion  
Ms. Elizabeth S. Mark  
Mr. and Mrs. Edwin Masin  
Mrs. Walter L. Mason  
Mr. and Mrs. Ralph A. Mastrorio  
Ms. Patricia E. Mautner  
Mrs. James A. Maxwell  
Mrs. Mary McKee  
Mrs. William J. McKeon  
Mrs. Julian S. Merigold  
Dr. and Mrs. Melvin Merken  
Mr. and Mrs. Maurice A. Meyer  
Mrs. John Meyers  
Mr. and Mrs. Gordon T. Miller  
Mr. and Mrs. Ronald P. Montvitt  
Ms. Nancy F. Morgan  
Mr. and Mrs. Richard F. Morton  
Mr. and Mrs. Duncan W. Munro  
Mr. and Mrs. Robert E. Murray  
Dr. and Mrs. Richard Myler

Mr. and Mrs. Carl K. Narsasian  
Mr. and Mrs. Ben R. Neely Jr.  
Mr. and Mrs. David C. Nelson  
Miss Phyllis Nichols  
Mrs. Carl W. Nielsen  
Ms. Viola M. Niemi  
Mr. and Mrs. Frederick A. Nissenbaum  
Mr. and Mrs. Eugene Nixon

Mr. and Mrs. Barry A. O'Connor  
Mrs. Celeste O'Neill  
Mr. and Mrs. John J. Ostrow  
Brother J. Conal Owens SJ

Mr. Daniel J. Paul  
Mr. Guido R. Perera Jr.  
Mr. Wallace M. Perkins  
Mrs. Steve Pero and Ms. Shirley A. Pero  
Mr. and Mrs. H. Stanley Peterson  
Mr. Albert R. Phaneuf  
Philip L. Philip, Psy.D.  
Dr. and Mrs. Rudolph W. Pierce  
Mr. and Mrs. Richard V. Pietrewicz  
Mr. and Mrs. Richard L. Porter

Mr. Philip J. Powers  
Mr. and Mrs. Marson E. Pratt  
Mr. and Mrs. Richard H. Prince  
Mr. and Mrs. Gordon L. Prior  
Mrs. Barney Pulda

Mr. and Mrs. Ralph E. Quimby

Mrs. Relly Raffman  
Mr. and Mrs. Norman F. Raphael  
Mrs. Dorothy V. Raphael  
Henry B. Raphaelson, Esq.  
Mr. and Mrs. Karl E. Rapp Jr.  
Arnold H. and Barbara M. Ravelson  
Mrs. Ruth Ravelson  
Mr. and Mrs. E. Harvey Rayner  
Mr. and Mrs. John M. Reddy  
Mrs. Harrison P. Reed  
Mrs. Carolyn D. Richardson  
Wendy Jane Rickles, Esq.  
Mrs. Bernard A. Riemer  
Mr. and Mrs. Henry M. Ritz  
Mr. and Mrs. Jacob Z. Robinson  
Mrs. Anne A. Rocheleau  
Mrs. Mildred R. Rondeau  
Mrs. Ellen M. Root  
Mrs. Oscar Rosenberg  
Mr. and Mrs. Ernest Rosenfeld  
Dr. David E. Rosengard  
Mrs. Harris Rosenkrantz  
Mr. and Mrs. Allen Rubin

Mrs. Teviah Sachs  
Miss Rose N. Sadick  
Ms. Martha C. Sbrogna  
Mr. and Mrs. Julian Schultz  
Mr. and Mrs. Robert Schultz  
Walter R. Schur, MD  
Mr. and Mrs. David E. Schwien  
Mrs. Alicia S. Seabury  
Mrs. Rhoda M. Seagle  
Ms. Cynde J. Seegers  
Dr. and Mrs. Daniel Seidenberg  
Mr. and Mrs. Charles B. Seton  
Mrs. Elizabeth S. Seymour  
Ann Sheehan  
Mrs. Daniel F. Shimkus  
Mr. and Mrs. William J. Short  
Ms. Pamela Sinclair  
Mr. and Mrs. Sidney L. Sloane  
Dr. and Mrs. Wilfred T. Small  
Mrs. Barbara K. Smith  
Mrs. Henry R. Smith  
Mrs. Abraham H. Snider  
Mrs. Irwin Solomon  
Ms. Bessie R. Stark  
Mr. and Mrs. Wilfred A. Steadman  
Mrs. Drusilla F. Stemper  
Mr. and Mrs. Joseph W. Stines  
Mr. Leonard C. Stranieri  
Mrs. Hans F. Streitwieser  
Mr. and Mrs. Clark B. Sundin Jr.  
Mr. and Mrs. Jonathan F. Swain

Mr. and Mrs. Lester E. Swartz  
Mrs. Ralph R. Swedberg

Mr. and Mrs. Douglas F. Tarella  
Mr. and Mrs. Harrison G. Taylor Jr.  
Bud and Betty Thiesing  
Mrs. Gerald S. Thomashow  
Mr. and Mrs. John P. Thompson  
Mr. and Mrs. Paul J. Tivnan  
Mr. and Mrs. Louis Tobasky  
Silvia and Cyrus Topol  
Mr. and Mrs. Sol Toscher  
Mr. and Mrs. Ernest A. Tosi  
Ms. Elizabeth Traynor

Mr. and Mrs. William J. Ugone  
Dr. Rudolf T. Utzschneider

Mr. Rufin VanBossuyt Jr.  
Ms. Georgia Voultsos

Mr. W. David Warner and  
Ms. Mary Beekman  
Mrs. Mary Smith Webster  
Ms. Christine B. White  
Mr. and Mrs. Leonard H. White  
Dr. and Mrs. Frederick G. Whoriskey  
Ms. Helen W. Wickwire  
Mr. and Mrs. Wade H. Wigington  
Ms. Marjorie E. Williams  
Mr. and Mrs. Samuel D. Williams  
Ms. Venise F. Withstandley  
Mr. and Mrs. Henry H. Wood Jr.  
Mrs. Gertrude C. Woodbury

Mr. Irving J. Yarock

Mr. and Mrs. Raymond A. Zeena  
Ms. Carol L. Ziemba  
Mr. and Mrs. George Zukowski

**Corporate and  
Foundation Donors**  
*(July 1, 1998 – June 30, 1999)*

*Donors of \$10,000 or more*  
Anonymous (1)

Alice Willard Dorr Foundation  
J. Irving and Janet L. England Trust  
Elizabeth Taylor Fessenden  
Foundation

*Donors of \$5,000 to \$9,999*  
Hycliff Foundation

*Donors of \$2,500 to \$4,999*  
The Margaret E. Sherman Trust

*Donors of \$1,000 to \$2,499*  
BankBoston  
J.J. Bafaro, Inc.  
Bancroft Motors, Inc.  
BASF Bioresearch Corporation  
Tina Bilazarian, Inc.  
Biogen, Inc.  
Tillie and William Blumstein  
Family Foundation, Inc.  
Christos and Mary Cocaine  
Charitable Trust  
Melvin S. Cutler  
Charitable Foundation  
Deerfield Press, Inc.  
Marie G. Dennett Foundation  
FLEXcon Company, Inc.  
Freelander Family Charitable Trust  
H.R. Gordon Family Foundation  
Nathan and Barbara Greenberg  
Charitable Trust  
Harlyn Foundation, Inc.  
Hart Foundation  
Hemisphere Polymer and  
Chemical Co., Inc.  
Hycliff Foundation  
Industrial Polymers & Chemical, Inc.  
The King Family Foundation  
The Kingsley Foundation  
Krintzman Charitable Foundation  
Leni's, Inc.  
Maurice H. Martel, DDS, and  
Ralph S. McCracken Co.  
Merck & Company Foundation  
Millbrook Distribution Service  
Palmer & Dodge/Boston  
David A. Persky Trust  
Rockwell Foundation  
Rose Family Charitable Fund  
Stanley A. Shustak, DDS, PC  
United Way of North Central  
Massachusetts  
Wyman-Gordon Foundation

*Donors of \$500 to \$999*  
Hollis E. & Gwendolyn D. Alden Trust  
*Greater Worcester Community  
Foundation, Inc.*  
The Family Bank  
Central Supply Company  
Morgan Construction Company  
Frances F. Mansfield Fund  
*Greater Worcester Community  
Foundation, Inc.*  
The Summerhill Foundation  
Tekscan, Inc.

*Donors of \$250 to \$499*  
Anonymous (1)  
The Bernhill Fund  
The Buffalo News  
J & P Carter Fund

*Greater Worcester Community  
Foundation, Inc.*  
Central Supply Company  
The Forbes Foundation  
Instron Corporation  
Lincoln Precision Machining Co.  
D. J. Mungovan Trucking, Inc.

*Donors of \$100 to \$249*  
Allegro MicroSystems, Inc.  
Bigelow Nurseries, Inc.  
Bradford Stephen at Tatnuck Square  
S. Ralph Cross & Sons, Inc.  
A.P. Etre Builders, Inc.  
Goddard Industries, Inc.  
The Brothers Harris  
Construction Company  
Honey Farms, Inc.  
Linemaster Switch Corporation  
F. W. Madigan Company, Inc.  
Masterman's  
McKay Roofing Service, Inc.  
New England Plating Co., Inc.  
A. L. Purinton Corporation  
Shack's Incorporated  
Southboro Dental Associates

*Donors of up to \$99*  
Brussels Development Co.  
Chapman Foundation  
Centrex Corporation  
Holden Farmers Supply  
Philip L. Lowe & Associates  
Rayco Car Electronics, Inc.  
Torge Ahead

**Memorial and Special  
Occasion Gifts**  
*(July 1, 1998 – June 30, 1999)*

Memorial and special occasion gifts  
represent support from those individuals  
and businesses who choose to honor  
or remember a loved one through a gift  
to medical research. Gifts are used as  
directed by the donor.

*In Memory of:*  
*Minnie Abbey*  
*Bessie Cohen*  
*Anna Krivchenia*  
*Mrs. Joan Mill's father*  
*Mr. Charles Siegel*  
Mr. and Mrs. Bernard Friedlander

*Mr. Nathaniel Abelson*  
Dr. and Mrs. Joseph R. Kuh

*Mr. William Adelson*  
Mr. and Mrs. Harry Kaplowitz

*Ronald C. Amaral*  
Mr. Stephen F. Hodes

*Arline Azud*  
Mr. and Mrs. Ralph H. Densmore Sr.  
Mr. and Mrs. Walter R. Erickson  
Mrs. Alice C. Fallon  
Mr. and Mrs. Raymond T. Steele  
Mr. and Mrs. Rowland J. Woodman

*Mrs. Herbert Bamel*  
*Mrs. Shirley Courtney*  
*Mr. Ralph Dahlquist*  
Mr. and Mrs. Morton H. Sigel

*Mr. Thomas Bannon*  
*Mr. John Hodgen's mother*  
*Miss Alison Lustig*  
*Mrs. Martha Torrens*  
Mr. and Mrs. Arthur B. Wolpert

*Mrs. Cyndia Barrow's mother*  
Mrs. Irwin Solomon

*Mr. John G. Bastille*  
*Mrs. Florence Hayes*  
*Mrs. Teresa McCauley*  
*Mr. William Tipton*  
Mr. and Mrs. Henry J. Ciborowski

*Mrs. Bernadette Beauvais*  
Mrs. Jeanne Blum Kissane  
Mr. and Mrs. Kevin M. Troio

*Mrs. Aline E. Blais*  
Mrs. Joyce Allen

*Mr. Thomas J. Bonica Sr.*  
Mr. James D. Murray

*Bertha Botuck*  
*Mrs. Sylvia Jaffee's mother*  
*Mr. Irving Kotlier*  
*Mrs. Norma Jean Meer*  
*Mr. Richard Rome*  
*Mr. Moe Whitebook*  
Mr. and Mrs. I. Robert Freelander

*Mrs. Helen R. Braziale*  
*Mr. Frank DeFalco*  
*Mr. Charles Hassett*  
*Mrs. Nancy McGinley*  
*Mr. Eugene Moniski*  
The Trotto Family

*Mrs. Joan Bress's father*  
*Ms. Lilyan Cutler's mother*  
*Mr. John Fierer*  
*Mr. Harry Frem*  
*Mrs. Edward Grigaitis' mother*  
*Ms. Eva Honig's mother*  
*Mrs. Anna Levine*  
*Mr. Paul Pezzella's father*  
*Mr. Philip Robbins' mother*  
*Mr. Ralph Secord*  
*Mrs. Lawrence Shaffer's father*  
*Mrs. Nancy Shulman's father*  
*Mrs. Bonnie Silver's mother*  
*Dr. Jang Singh's brother*

*Mr. Al Tapper's mother*  
*Mrs. Alan Yoffie's father*  
Mr. and Mrs. Richard C. Gotz

*Galen Bruso*  
Mr. and Mrs. Stephen J. Koenig

*Mr. H. Paul Buckingham*  
Mr. Robert W. Ellis

*Mr. William H. Button*  
Anonymous

*Mr. William J. Cadigan*  
Dr. and Mrs. Richard Myler

*Mr. Gilles Caissie*  
Mrs. Joyce Allen

*Mrs. Anna M. Carmody*  
Mr. and Mrs. Frank S. Puccio Jr.

*Mrs. Karen Carson*  
Ms. Lorraine G. Wapner

*Mr. Frank V. Cipro*  
Mrs. Mildred R. Rondeau

*Rose Connors*  
Mr. and Mrs. Vincent P. Messina

*Mrs. Alice Cote*  
Mrs. Mildred R. Rondeau

*Mrs. Frances Crowley*  
Mr. and Mrs. Ronald S. Davis  
Mrs. Alice Frodigh

*Mr. William F. Daigle Jr.*  
Mr. and Mrs. Bruce G. Hohorst

*Mr. Paul David*  
Mrs. Jeanne Blum Kissane  
Richard and Mary Myers  
Mr. and Mrs. Kevin M. Troio

*Mr. Richard Diamond*  
*Mrs. Elayne Hyman*  
Mrs. Oscar Rosenberg

*Mr. David J. Earsy*  
Worcester State College,  
the Nursing Class of 1999

*Mrs. Ann Marie Erickson*  
Mr. and Mrs. Norman G. Danielson Jr.  
Mr. and Mrs. Norman G. Danielson Sr.  
Mr. and Mrs. Stephen McKuzes

*Mrs. Rosemarie Ermilio*  
Mr. and Mrs. Alfred E. Green  
Mr. and Mrs. Jay H. Montgomery

*Mr. Daniel Farber*  
Mr. and Mrs. Stuart Weisberger

*Dr. Aaron Feldstein*  
Mrs. Aaron Feldstein

*Mrs. Lillian Golder Fishstein*  
*Mr. Sanford L. Waxman*  
Edward and Mona Morris

*Mr. Jerome Freedman*  
Mr. and Mrs. Alan C. Bieri  
Mr. and Mrs. William P. Delaney  
Mr. and Mrs. Norman R. Fortier  
Mr. and Mrs. Julius Grozen  
Mrs. Jeanne Blum Kissane  
Mr. and Mrs. Herbert Kottler  
Mr. and Mrs. Alan J. McLaughlin  
Richard and Mary Myers  
Mr. and Mrs. Carl E. Nielsen Jr.  
Mr. and Mrs. Roger W. Sudbury  
Ms. Joan Teno  
Mr. and Mrs. John C. Toomay  
Mr. and Mrs. Kevin M. Troio

*Mrs. Margaret M. Freedman*  
Deborah and Alan Bieri  
Mr. and Mrs. Edwin S. Giles Jr.  
Mr. and Mrs. Robert J. McKenna  
Richard and Mary Myers  
Mr. and Mrs. Kevin M. Troio

*Judge Joseph Goldberg*  
Mrs. Joseph Goldberg

*Mr. Joseph Golder*  
Mr. and Mrs. Harry Kaplowitz

*Mrs. Mary Lou Gonyea*  
Mr. and Mrs. Frank Chionchio

*Mrs. Barbara Gopen*  
Mrs. Bernard A. Riemer

*Mr. Mark A. Gorham*  
Ms. Shirley E. Adams  
Ms. Therese L. Archambeault  
Mr. and Mrs. Raymond C. Bedard  
Mr. and Mrs. David A. Bianculli  
Mrs. Jeannette Boynton  
Mr. and Mrs. Craig T. Brazell  
Chase Precast Corporation  
Mrs. Marjorie R. Clemens  
Mr. and Mrs. Vito J. Colonna  
Ms. Ruth S. Converse  
Mr. and Mrs. George A. Cross  
Crowley Fuel Co., Inc.  
Mr. and Mrs. Charles C. Demarky  
Mr. and Mrs. Richard Ferreira  
Mr. and Mrs. Robert R. Fitzgerald  
Ms. Barbara Fitzpatrick  
College of the Holy Cross  
Mr. and Mrs. Walter E. Horgan  
Ms. Helen J. Howard  
Mr. and Mrs. Andrew F. Hubacz  
Mr. and Mrs. Russell W. Johnson  
Mr. and Mrs. James H. Kane  
Mr. and Mrs. Dennis M. Kelley  
Ms. Yvonne M. Lavigne  
Ms. Jeanette C. Lavigne  
Mr. and Mrs. Robert J. Letourneau

Mr. and Mrs. David G. Matys  
Mr. and Mrs. Ernest A. Messier Jr.  
Mrs. Timothy Murphy  
Ms. Ellen L. O'Leary  
Mr. James M. Oliver  
Mr. and Mrs. R. H. Paradis  
Mr. and Mrs. Robert A. Poirier  
Ms. Hazel Quirion  
Ms. Margie Savasta  
Ms. Anne M. Tebo  
Ms. Evelyn M. Thomas

*Mr. Leonard Gorlick*  
Ms. Eilleen T. Drummond

*Mr. Harold Gould*  
Mr. and Mrs. Joel H. Berman

*Mrs. Bernadette Govoni*  
Mr. and Mrs. I. Robert Freeland  
The Trotto Family

*Mr. Jim Grant*  
Ms. Rebecca Cubski  
Ms. Paula Hartzell

*Mr. Julius Grozen*  
Mr. and Mrs. I. Robert Freeland  
Mr. and Mrs. Edwin S. Giles Jr.  
Mr. and Mrs. Morton H. Sigel

*Mr. O. Vincent Gustafson*  
Linemaster Switch Corporation

*Mrs. Pauline M. Hall*  
Mr. and Mrs. Kevin M. Troio

*Mr. Ernest Hooks*  
*Mrs. Agnes Wood*  
Mrs. Mary Bullard Hennessy

*Mrs. Dorothy Horvath*  
Mrs. Dorothy M. Braczyk  
Mr. and Mrs. Ralph J. Brosnahan

*O.B. Johnson*  
Bigelow Water Company, Inc.

*Robert Kerr*  
Mr. and Mrs. Thomas F. Beatty

*Elizabeth R. Knight*  
Mr. and Mrs. Gordon R. Knight  
Mr.\* and Mrs. William W. Knight III

*Mr. Abraham Krintzman*  
Mrs. Abraham Krintzman

*Mr. Andrew LaFlamme*  
Mrs. John J. Hanson Jr.

*Mrs. Helen Lancey*  
Mr. and Mrs. Edwin A. Brewer  
Mr. and Mrs. Henry J. Ciborowski

*Mrs. Mary M. Lee*  
Ms. Nellie Adamian  
Mr. and Mrs. George W. Ballantyne Jr.  
Briarwood Resident Association  
Mr. and Mrs. Carleton G. Bridgham  
Mr. Lawrence E. Cohen  
Mrs. Ruth V. Gaboury  
Mr. and Mrs. Edward C. Jellson  
Mrs. Rose M. Monroe

*Mr. Robert I. Lehman*  
Mrs. James M. Martin

*Mr. Thomas Lewison*  
Mr. and Mrs. John J. Ostrow

*Mrs. Erma Lougee*  
Mr. Ed Rawling  
Mr. and Mrs. Sherburne B. Rockwell Jr.  
Mr. and Mrs. Ernest A. Tosi

*Mr. Harold Maynard*  
Mr. and Mrs. Olan R. Robinson

*Mrs. Grace H. McConn*  
Mr. and Mrs. Charles H. Moser  
Mr. and Mrs. Harold P. Parker  
Mrs. Mildred I. Roberts  
Mr. and Mrs. Tim Swiss  
Mr. and Mrs. Robert L. Williams

*Dr. A. Edgar Miller Jr.*  
Mrs. Teviah Sachs

*Mr. Martin Modell*  
Mr. and Mrs. Ralph Mensch

*Mr. Timothy Murphy*  
Mrs. Timothy Murphy

*Mr. John J. O'Connor*  
Worcester Telegram & Gazette Staff

*Mr. Clifford Olson*  
Ms. Kim Fay  
Mr. and Mrs. George O. Johnson  
Mr. and Mrs. Leon A. Woodstock

*Mrs. Emily G. Penrose*  
Richard and Mary Myers

*Mr. Ralph Raphael*  
Mrs. Dorothy V. Raphael

*Mrs. Corrine Ribakoff*  
Mr. and Mrs. Richard C. Gotz  
Mr. and Mrs. Morton H. Sigel

*Mrs. Sophie Richmond*  
*Abraham & Lena Sadick*  
Miss Rose N. Sadick

*Mrs. Jean Robinson*  
Mr. and Mrs. Richard C. Gotz  
Mr. and Mrs. Frank S. Puccio Jr.

*Mr. Ed Sawyer*  
Mr. and Mrs. Richard L. Batchelder  
Mrs. Mary Bullard Hennessy  
Mrs. Marion C. Ibach  
Mr. and Mrs. Douglas W. Rathbun

*Mr. Henry O. Smith*  
Mrs. Mary Smith Webster

*Mr. John Milton Stone*  
Ms. Sharon McCann

*Mr. Richard C. Tebo*  
Mr. and Mrs. Melzar D. Cole

*Mr. Anthony Theoharides*  
Laurie Raphaelson Ballantine, Esq.

*Mrs. Helen Thoutsis*  
Mrs. Robert F. Dillman Sr.

*Mrs. Rosamond Toohey*  
Mrs. Maude Sawyer

*Mr. John R. Townsend*  
Anne and David Barlow  
Mrs. Frank X. Bonneau  
Ms. Bari Boyer and  
Dr. Marshall Katzen  
Mr. and Mrs. Edwin A. Brewer  
Mr. and Mrs. Robert D. Brown  
Ms. Bettyann Chamberlin  
Mrs. Egidio J. Conti  
Mr. and Mrs. Sidney A. Dorfman  
Mr. Francis S. Downes  
Mr. and Mrs. I. Robert Freeland  
Mr. Frederick J. Frey  
Mr. and Mrs. George A. Garrison  
Mr. and Mrs. Edwin S. Giles Jr.  
Mr. and Mrs. H. Richard Green  
Ms. Janet M. Greffrath  
Mr. and Mrs. Raymond G. Harlow  
Mr. and Mrs. Raymond A. Konisky Jr.  
Reverend and Mrs. Francis D.S. Miller  
Ohsana and Arra Nergararian  
Mr. and Mrs. Hugo Orrizzi  
Mr. and Mrs. Wayne A. Prescott  
Profits Unlimited  
Ms. Carol Seager  
Miss Ethel O. Sohlberg  
Mr. and Mrs. Thomas R. Stearns  
Mr. and Mrs. Ernest A. Tosi  
Mr. and Mrs. Daniel G. Tower  
Mr. and Mrs. Bruce B. Ward  
Mr. and Mrs. David H. Webb  
Ms. Mary R. Williams  
Mr. and Mrs. George H. Wilson  
Dr. Rosalie S. Wolf  
Ms. Leslie Woolner  
Mr. and Mrs. Ralph Woolner

*Mrs. Lillian Williams*  
Mrs. John R. Townsend

*Thirtieth Wedding Anniversary*  
*Wishes to:*

*Mr. and Mrs. Michael Sleeper*  
Mr. and Mrs. Richard C. Gotz

*First Wedding Anniversary*  
*Wishes to:*

*Mr. and Mrs. Jon Mack*  
Mr. and Mrs. Richard C. Gotz

*Special Wedding Anniversary*  
*Wishes to:*

*Mr. and Mrs. Louis Kleiman*  
Mrs. Irving Kotlier

*In Honor of the Marriage of:*

*The Berlins*  
*Ms. Liz Tapper's daughter*  
*Nicole Zamansky*  
Mr. and Mrs. Richard C. Gotz

*In Honor of the Engagement of:*

*Dr. and Mrs. Paul Hart's daughter*  
Mr. and Mrs. Richard C. Gotz

*Special Birthday Wishes to:*

*Atty. Burton Berg*  
*Mrs. Zelda Chafetz*  
*Mrs. Avery Niman*  
*Paul and Zelda Schwartz*  
Mr. and Mrs. Richard C. Gotz

*Mr. Adam Freeland*  
Mr. and Mrs. I. Robert Freeland

*Mr. Nathan Greenberg*  
*Mr. Myles McDonough*  
Mr. and Mrs. Morton H. Sigel

*Dorothy Jaffee*  
*Mr. Robert A. Jaffee*  
Mrs. Oscar Rosenberg

*Mr. Morris Schechter*  
Edward and Mona Morris

*Mrs. Vivian Sigel*  
Richard and Mary Myers  
Trevor and Pat Bartram

*Merrill Skeist*  
Mrs. John Meyers

*Special Births:*

*Jessie Nathaniel Freeland*  
Mrs. Harriet Rome Pemstein

*Donna Frishman*  
I. Robert and Aviva Freeland

*Mr. and Mrs. Larry Siff's son*  
Mr. and Mrs. Richard C. Gotz

*Bat Mitzvah Wishes to:*

*Ellen Fishman*  
Edward and Mona Morris

*Mr. and Mrs. James Patrick's daughter*  
Mr. and Mrs. Richard C. Gotz

*Get Well Wishes to:*

*Mrs. Hilda Betten*  
*Mr. Alexander Gordon*  
*Mr. Herbert F. Wischnia*  
I. Robert and Aviva Freeland

*Aviva and I. Robert Freeland*  
Mr. and Mrs. Kenneth L. Davidson

*Mr. Louis Goldstein*  
Mrs. Oscar Rosenberg

*Mr. and Mrs. Gordon*  
Mrs. Frank X. Bonneau

*Graduation Wishes to:*

*Mr. and Mrs. Glenn Kessler's son*  
*Mr. Jon Kumin*  
*Mr. Solomon Kumin*  
*Mr. Brian Lowe*  
*Ms. Jessica Poznik*  
Mr. and Mrs. Richard C. Gotz

*In Honor of:*

*Rabbi Seth Bernstein*  
*Dr. Herbert Dean's granddaughter*  
Mr. and Mrs. Richard C. Gotz

*Aviva and Robert Freeland*  
Mr. and Mrs. Richard C. Gotz  
Mrs. Irving Kotlier

*Mrs. Sandra S. Hewitt*  
Ms. Susan J. Hessel

*Sally Moore*  
Laurie Raphaelson Ballantine, Esq.

*Mrs. Anne A. Rocheleau*  
Mrs. Frank X. Bonneau

*Mr. Morton H. Sigel*  
Dr. and Mrs. Mark O. Cutler  
Mr. and Mrs. Sherburne B.  
Rockwell Jr.  
Mr. and Mrs. Jonathan R. Sigel  
Mr. and Mrs. Robert A. Sigel  
Mr. and Mrs. Jonathan J. Sloane  
Dr. Rosalie S. Wolf

*Good Wishes and Happiness to:*

*Mr. and Mrs. I. Robert Freeland*  
Mrs. Irving Kotlier

*Happy Results to:*

*Mr. and Mrs. Herman Lowe*  
Mr. and Mrs. Simon H. Goldstein

*Although the greatest possible care has been taken in the preparation of this record, the Worcester Foundation recognizes the possibility of omissions or inaccuracies. If any are noted, please accept our apology and advise us of any correction to be made.*

\*deceased

## The Worcester Foundation Board of Trustees



### Officers

**Morton H. Sigel**  
Chairman

**John M. Nelson**  
Vice Chairman

**Edward Bresnick, PhD**  
President

**Christopher W. Bramley**  
Treasurer

**Diane G. Dalton**  
Secretary

### Trustees

**Helen H. Beekman**  
New York, New York

**Robert D. Blute Jr., MD**  
Assistant Professor of Surgery and  
Interim Chief of Urology  
University of Massachusetts  
Medical School

**Joan T. Bok**  
Chairman *Emeritus*  
NEES Companies  
Boston, Massachusetts

**Standish Bradford, Esq.**  
Brookline, Massachusetts

**Christopher W. Bramley**  
President and CEO  
Family Bank, FSB  
Fitchburg, Massachusetts

**Edward Bresnick, PhD**  
President  
Worcester Foundation for  
Biomedical Research

**James McConnell Clark**  
President of the Corporation  
Woods Hole Oceanographic  
Institution  
Woods Hole, Massachusetts

**Melvin S. Cutler**  
Principal  
Cutler, Wentzell & Moynihan, LLC  
Worcester, Massachusetts  
Founder and Chairman  
Madison Bank  
Palm Harbor, Florida

**Diane G. Dalton**  
Chestnut Hill, Massachusetts

**Jack Fishman, PhD**  
Director  
Strang Cancer Research Laboratory  
Cornell Medical School  
New York, New York

**Warner S. Fletcher, Esq.**  
Director  
Fletcher, Tilton & Whipple, PC  
Worcester, Massachusetts

**I. Robert Freeland**  
Chairman  
Come Play Products  
Worcester, Massachusetts

**Susan E. Gotz**  
Worcester, Massachusetts

**Barbara R. Greenberg**  
Worcester, Massachusetts

**James H. Harrington**  
Chairman and CEO  
Dolphin Resource Group Inc.  
Worcester, Massachusetts

**John Herron Jr.**  
Chairman  
Zoologic  
New York, New York

**Prentiss C. Higgins**  
Chairman and CEO  
PhytoChem Technologies, Inc.  
Chelmsford, Massachusetts

**M Howard Jacobson**  
Senior Advisor  
Bankers Trust, Private  
Advisory Services  
Westborough, Massachusetts

**V. Craig Jordan, PhD, DSc**  
Diana, Princess of Wales Professor  
of Cancer Research  
Robert H. Lurie Cancer Center  
Northwestern University  
Medical School  
Chicago, Illinois

**Rayna Keenan**  
Worcester, Massachusetts

**Nina Joukowsky Köprülü**  
Director  
Joukowsky Family Foundation  
New York, New York

**Irwin B. Levitan, PhD**  
Professor of Biochemistry  
Brandeis University  
Waltham, Massachusetts

**Maurice H. Martel, DDS**  
Holden, Massachusetts

**William C. Meyers, MD**  
Chair and Professor of Surgery  
University of Massachusetts  
Medical School

**Joseph E. Murray, MD†**  
*Emeritus* Chief of Surgery  
Harvard Medical School  
*Emeritus* Chief of Plastic Surgery  
Brigham & Women's Hospital and  
Children's Hospital  
Boston, Massachusetts

**John M. Nelson**  
Lead Director  
The TJX Companies, Inc.  
Framingham, Massachusetts

† Nobel laureate

**Guy W. Nichols**  
Boston, Massachusetts

**O. Nsidinanya Okike, MD**  
Professor of Surgery and  
Vice Chairman  
Division of Thoracic and  
Cardiac Surgery  
University of Massachusetts  
Medical School

**Thoru Pederson, PhD**  
Director  
Worcester Foundation for  
Biomedical Research  
Vitold Arnett Professor of Cell Biology  
Professor of Biochemistry &  
Molecular Biology  
University of Massachusetts  
Medical School

**Riccardo Pigliucci**  
CEO  
Discovery Partners International  
San Diego, California

**Martin M. Pollak**  
Executive Vice President and  
Treasurer  
GP Strategies Corporation  
New York, New York

**Robert M. Quinlan, MD**  
Vice Chairman  
Department of Surgery  
UMass Memorial Health Care  
Worcester, Massachusetts

**Louise C. Riemer**  
Chestnut Hill, Massachusetts

**Penelope B. Rockwell**  
Worcester, Massachusetts

**Paul S. Russell, MD**  
John Homans Distinguished  
Professor of Surgery  
Harvard Medical School  
Massachusetts General Hospital  
Boston, Massachusetts

**Robert Schultz**  
President  
Schultz Lubricants, Inc.  
West Boylston, Massachusetts

**Robert B. Shapiro**  
Chairman and CEO  
Monsanto Company  
Chicago, Illinois

**Morton H. Sigel**  
Chairman of the Board and President  
Tekscan, Inc.  
Boston, Massachusetts

**Alison Taunton-Rigby, PhD**  
President and CEO  
Aquila Biopharmaceuticals  
Framingham, Massachusetts

**H. Brownell Wheeler, MD**  
Harry M. Haidak Distinguished  
Professor of Surgery *Emeritus*  
University of Massachusetts  
Medical School

**Grant F. Winthrop**  
Partner  
Milbank Winthrop and Company  
New York, New York

### Honorary Trustees

**Étienne-Émile Baulieu, PhD, MD**  
Paris, France

**Robert A. Bernhard**  
New York, New York

**Nancy L. R. Bucher, MD**  
Boston, Massachusetts

**Jane D. Claflin**  
Boston, Massachusetts

**Robert Cushman**  
Naples, Florida

**George R. Dunlop, MD**  
Worcester, Massachusetts

**Orrie M. Friedman, PhD**  
Brookline, Massachusetts

**Jacob Hiatt**  
Worcester, Massachusetts

**Mahlon Hoagland, MD**  
Thetford, Vermont

**Thomas R. Mountain, Esq.**  
Worcester, Massachusetts

## Making a Gift

The Worcester Foundation welcomes inquiries about making a gift in support of basic research.

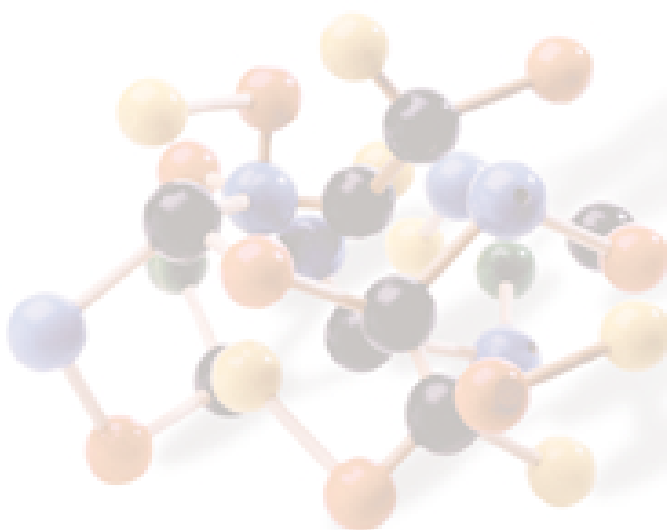
For additional information about any of the Worcester Foundation's gift programs and their impact on lifesaving research, please contact:

Patricia Kelleher Bartram  
Director of Development

or

Mary Flynn Myers  
Director of Major Gifts

Worcester Foundation for Biomedical Research  
Four Biotech  
377 Plantation Street  
Worcester, MA 01605  
(508) 856-1994



**Chancellor and Dean**, University of Massachusetts Medical School

Aaron Lazare, MD

**Chairman of the Board**, Worcester Foundation for Biomedical Research

Morton H. Sigel

**President**, Worcester Foundation for Biomedical Research

Edward Bresnick, PhD

**Director**, Worcester Foundation for Biomedical Research

Thoru Pederson, PhD, the Vitold Arnett Professor of Cell Biology and  
Professor of Biochemistry & Molecular Biology, University of Massachusetts Medical School

**Director of Development for Biomedical Research**

Patricia Kelleher Bartram

**Director of Major Gifts for Biomedical Research**

Mary Flynn Myers

This annual report is produced on behalf of the Worcester Foundation  
for Biomedical Research by the Office of Public Affairs & Publications,  
University of Massachusetts Medical School.

**Director of Public Affairs & Publications and Managing Editor**

Mark L. Shelton

**Associate Director of Publications and Editor**

Andrea L. Badrigian

**Staff Writers**

Andrea L. Badrigian

Lynn C. Borella

Mary Beth Dziewietin

**Contributing Writer**

Roxanne Hurley

**Design**

RDW Group, Inc./Dubois Patch & Co.

**Printing**

LaVigne Press, Inc.

**Photography**

Steve Gilbert

Patrick O'Connor

Larry Stein

UMMS Biomedical Media

Jim Ziv

Readers are invited to comment on the contents of this annual report.  
Please address correspondence to:

Editor, 1999 Worcester Foundation Annual Report

Office of Public Affairs & Publications

UMass Medical School

55 Lake Avenue North

Worcester, MA 01655



**Worcester Foundation for Biomedical Research**

Four Biotech  
377 Plantation Street  
Worcester, MA 01605  
(508) 856-1994

Non-Profit Org.  
U.S. Postage  
PAID  
Worcester, MA  
Permit No. 176