

*2011 Awards in*

# PHARMACEUTICS

application deadline: October 2010



“Thanks to the PhRMA Foundation Fellowship, I have been able to expand my knowledge of the respiratory system by conducting inhalable therapeutic delivery research. This opportunity has been essential to my ability to move forward with my career.”

Timothy Brenza, Ph.D.

# Area of Interest

## Pharmaceutics

Pharmaceutics is that area of biomedical and pharmaceutical sciences that deals with drug delivery systems, in particular the design and evaluation of contemporary pharmaceutical dosage forms so that they are safe, effective, and reliable. It is a multidisciplinary area, with significant underpinnings from such basic scientific disciplines as physical chemistry, physical organic chemistry, and biophysics.

Pharmaceutics places a strong emphasis on understanding and exploiting the principles underlying drug delivery, whether a drug is a small organic molecule, a higher molecular weight protein, or a peptide derived through the use of biotechnology.

As advances in genomics—the study of genes and their functions—result in the identification and production of functional genes, gene therapy delivery will become an increasingly important component of pharmaceutics.

Pharmaceutics also is concerned with understanding the impact of formulation and manufacturing factors on the quality of a dosage form, including its physical and chemical stability.

### *on the cover*

Timothy Brenza, Ph.D.

University of Iowa,  
Department of  
Chemical and  
Biochemical  
Engineering

Dr. Brenza is a recipient  
of a 2009 Post  
Doctoral Fellowship  
in Pharmaceutics

### *on the inside*

Caitlin Lemke, Ph.D.

University of Iowa,  
Division of  
Pharmaceutics

Dr. Lemke is a recipient  
of a 2009 Post  
Doctoral Fellowship  
in Pharmaceutics

# Types of Awards

*The PhRMA Foundation Program(s) in Pharmaceutics include the following awards:*

## **Pre Doctoral Fellowships**

This program provides two years of stipend funding during the doctoral program after course work has been completed and the remaining training activity is a student's research project. An applicant must be a full-time student in a Department of Pharmaceutics and the Department Chair is expected to verify the applicant's doctoral candidacy.

## **Post Doctoral Fellowships**

This program provides stipend funding to well-trained graduates from Ph.D. programs in pharmaceutics and related disciplines who seek to further develop and refine their pharmaceutics research skills through formal postdoctoral training. The application must include a research plan written by an applicant, the mentor's research record, and a description of how the mentored experience will enhance the applicant's career development in pharmaceutics.

## **Sabbatical Fellowships**

This program provides stipend funding to enable pharmaceutics faculty members at all levels with active research programs the opportunity to work at other institutions for periods of from six months to one year to learn new skills or develop new collaborations that will enhance their research and research training activities in pharmaceutics. Applicants are expected to have approval (or pending approval) for a sabbatical leave from their home institution, and provide an endorsement from the mentor who will sponsor their sabbatical activity. Matching funds must be provided through the university.

## **Research Starter Grants**

This program supports individuals beginning independent research careers in academia who do not have other substantial sources of research funding. Applicants must be appointed to an entry-level tenure-track or equivalent permanent position in a department or unit responsible for pharmaceutics activities as part of its core mission. The description of an applicant's career goals, and the Department Chair's description of institutional support for the applicant's salary, are important in evaluating an application.

# General Information

## Eligibility Criteria

Before an individual is eligible to apply for a PhRMA Foundation award, an applicant must first have a firm commitment from a university in the U.S. Applications must be submitted by an accredited U.S. school, and all applicants must be U.S. citizens or permanent residents. Documentation is described under the specific awards on the website.

## Applications

Applications are to be submitted via the Foundation website. Required reports and hardcopies should be sent to: Eileen Cannon, Executive Director, Pharmaceutical Research and Manufacturers of America Foundation, 950 F Street, NW, Suite 300, Washington, DC 20004, and received by October 1, 2010. Applications will not be accepted after the deadline date.

Detailed application requirements are stated on our website. Please visit [www.phrmafoundation.org](http://www.phrmafoundation.org) to access an application and to view the specific requirements.

## Use and Care of Laboratory Animals

Research projects involving animal subjects require a statement that the project will follow the guidelines set forth by the NIH Guide for the Care and Use of Laboratory Animals and that the project will be performed, reviewed, and approved by a faculty committee of the university.

## Reports

The recipient school is expected to submit an annual report on the disposition of the funds awarded by the PhRMA Foundation. Any change in the relationship between the institution and the individual must be brought to the attention of the Foundation, at which time the situation will be reviewed.

A progress report is to be submitted by the awardee ten months into the first year of funding of the fellowship. The second year of funding, when applicable, is contingent upon a satisfactory review of the report. A final report is due within 60 days after the conclusion of the grant. These reports must be signed by the sponsor of the award recipient.

Any publications, speeches, presentations, and all other materials that stem directly from the research supported by this grant must acknowledge the support of the PhRMA Foundation. Three reprints of each publication should be forwarded to the PhRMA Foundation.

# Pharmaceuticals Programs



*Pharmaceutical research is a field on the cutting edge of science.*

It is purpose driven, intellectually challenging and socially rewarding. Rapid scientific advances—in biochemistry, molecular biology, cell biology, immunology, genetics, and information technology—are transforming drug discovery and development, paving the way for more effective, precise drugs that have fewer side effects and will benefit patients of all ages and stage of life. Over the past 45 years, the PhRMA Foundation has provided grants and fellowships to thousands of young scientists to further their careers in pharmaceutical research. Many have gone on to illustrious careers in academia and government, some have made major pharmaceutical discoveries and others have mentored scientists over their careers. The prestige of receiving a PhRMA Foundation award has enabled 80% of our awardees to go on to receive funding from larger institutions—proof of the status our awardees are accorded.

*Now the opportunities are greater than ever.*

**The PhRMA Foundation** supports young scientists at critical points in their careers in emerging, new, and traditional disciplines important to the pharmaceutical industry by awarding competitive fellowships and grants. Mid-career scientists may also receive sabbatical support when seeking to redirect their research efforts. The aim of these programs is to encourage young scientists who will be the research leaders of tomorrow to pursue careers in research and education in areas essential to drug discovery.

# General Information *continued*

## **Ethical Considerations**

The Scientific Advisory Committee as well as the program advisory committees of the PhRMA Foundation require the appropriate use of humans and animals in research. In their deliberations, these committees consider all aspects of a proposal and may deny support for many reasons. Careful consideration is given to human use and care of animals. For human and animal research, the project review committee requires, a written statement confirming adherence to prevailing standards of ethical research practices, including institutional Review Board approval, before initiation of any research projects. In addition, assurance of informed consent is required for all research in which humans are involved.

## **Termination**

Circumstances may arise under which the school or the award recipient may wish to terminate the award before its completion. This may be arranged at any time by agreement between the school and the PhRMA Foundation. Termination will be made with the understanding that all unexpended funds will be returned to the PhRMA Foundation and that any unpaid balance of the award will be canceled.

## **Selection**

Selection of the recipients of the awards will be made by the Board of Directors of the PhRMA Foundation, based upon the recommendations of the Scientific Advisory Committee and the Pharmaceuticals Advisory Committee. All applicants will be notified no later than December 15, 2010.

### *Pharmaceutical Research and Manufacturers of America Foundation*

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Please visit  
**[www.phrmafoundation.org](http://www.phrmafoundation.org)**  
to access an application and view the specific requirements.