Post-Doctoral PharmD Fellowship
Early Clinical Development 2021

Sponsored in conjunction with

AstraZeneca

University of Maryland
The Founding Campus
ABOUT ASTRAZENECA

AstraZeneca is a global, science-led biopharmaceutical company that focuses on the discovery, development, and commercialization of life-changing medicines that contribute value to patients and society. AstraZeneca’s innovative science and leadership is concentrated in three main therapy areas: oncology; respiratory; and cardiovascular, renal, and metabolic disease (CVRM).

AstraZeneca North America research operations is headquartered in Gaithersburg, Maryland (25 miles from Washington, DC) one of AstraZeneca’s three global R&D centers, with additional sites in Cambridge, United Kingdom and Gothenburg, Sweden. With a drive to follow the science, AstraZeneca employs some of the best scientific minds in the industry who continually push the boundaries of science to deliver life-changing medicines.

AstraZeneca currently has 167 projects in development with 7 new molecular entities in late-stage trials - one of the most robust pipelines in the industry. The Gaithersburg site includes 3500 employees in a state of art building that supports drug development from discovery to clinical development.
The University of Maryland School of Pharmacy partnership with AstraZeneca makes available a unique clinical development fellowship to new graduates who are interested in pursuing careers in the pharmaceutical and biotechnology industries. This fellowship not only provides a wonderful training opportunity for outstanding graduates but also creates a pipeline for the development of highly-qualified scientists who will be on the forefront of creating new medicines for the treatment of a variety of diseases. This innovative educational and research opportunity allows fellows to experience first-hand the work environment and challenges of the pharmaceutical industry. Furthermore, the fellowship allows students to leverage their PharmD education and apply it to real-world applications. As evidenced by the success of former fellows, AstraZeneca Clinical Development Fellows are uniquely positioned to compete in the highly competitive pharmaceutical and biotechnology industry. Thus, this opportunity provides an exciting springboard for a highly successful career at AstraZeneca and beyond.

**Oday Hamid, PharmD**  
Fellowship Program Director  
Group Director, Early Clinical Oncology  
AstraZeneca, LLC

**Peter Swaan, PhD, MS**  
Fellowship Program Director  
Associate Dean and Professor  
University of Maryland School of Pharmacy
OVERVIEW

The AstraZeneca-University of Maryland Clinical Development Fellowship is an exclusive 2-year program geared for University of Maryland School of Pharmacy graduates with a penchant for clinical research in the pharmaceutical and biotechnology industries. Established in 2009, the fellowship has paved the career path for numerous University of Maryland School of Pharmacy graduates.

Fellows in the program will be involved in the early clinical development of oncology therapeutics. These pharmaceutical products may include biologics and small molecules, as well as exciting new immunotherapies. The key learning objectives of the fellowship program are to understand:

- The organizational approach to drug development and the roles of various departments/functions.
- Components of an integrated product development plan (iPDP) & clinical development plan (CDP), investigational new drug (IND) filing process – including preclinical, toxicology, and PK/PD requirements.
- Regulatory requirements and interactions between FDA and industry.
- The purpose of Phase I, II, and III research.
- Biologic license application (BLA) filing process.
- Post-marketing commitments, pharmacovigilance and risk management plans.
- Study team and vendor management.
- Approach to commercial and business assessment of pharmaceutical products.
- The process of lifecycle management of pharmaceutical products.
- The importance of biomedical ethics and protection of human subjects in clinical research.
- Didactic and experiential forms of instruction through preceptorship of fourth-year student pharmacists.
FELLOWSHIP OBJECTIVES

At the end of the fellowship, the fellow will have developed competency in these areas:

- Scientific research process (including hypothesis generation and development)
- Study design
- Protocol development
- Study coordination and management
- Data collection activities
- Data analysis and interpretation
- Presentation of results to internal and external personnel (includes team meetings, conferences, and publications)
- Professional communication including verbal and written
This fellowship offers an unparalleled opportunity to train for the role of a clinical scientist with experts in the industry. We frequently work with our AstraZeneca colleagues on combination studies with small molecules which helps broaden our exposure to various therapeutic mechanisms that present different challenges. AstraZeneca has one of the most impressive pipelines of drugs with novel mechanisms, and being on the forefront of science means that we have the benefit of learning about new theories in medicine while also contributing to the development of life-changing drugs.

Jonathan Meyer, PharmD
Clinical Scientist
Regeneron Pharmaceuticals
Former Fellow

This fellowship is a unique opportunity to immerse oneself in the dynamic role a clinical scientist plays in the drug development process. It arms fellows with the skills needed to act as contributing members to the clinical development team, working towards curating novel therapies and combination treatments for populations with high unmet need. A spirit of innovation and collaboration thrives at AstraZeneca, fostering an open environment for ample learning and creativity. The fellowship opens the door to training opportunities that adequately prepare its fellows for a career in industry.

Stephanie Udoye, PharmD
Medical Scientist, Late Oncology
AstraZeneca PLC
Former Fellow

Through the clinical drug development post-doctoral program at AstraZeneca, I was able to learn invaluable skills such as understanding clinical trial design, protocol development, the scientific research process and much more. Through this opportunity, I was also able to apply the clinical science I had learned in school to help assess patient profiles for safety as well as efficacy of the investigational drugs we work on here at AstraZeneca.

Natasha Angra, PharmD
Associate Director, Clinical Development Oncology
AstraZeneca, PLC
Former Fellow
**REQUIREMENTS**

1. Applicant is currently in their 4th year of pharmacy school and has achieved a grade point average of \( \geq 3.0 \) (on 4.0 scale).

2. Applicant has conducted research in relevant scientific fields (includes: toxicology, pharmacokinetics/pharmacodynamics, analytical chemistry, health services or preclinical/clinical).

3. Applicant demonstrates sufficient communication (written and oral) skills as per prior curriculum requirements or presentation of prior research.

4. Applicant has been conferred a PharmD by the start of the fellowship program (fellowship starts on the first week of July 2021).

**APPLICATION PROCESS**

Students will be evaluated by the Executive Committee composed of AstraZeneca and University of Maryland School of Pharmacy staff and are required to submit the following documents:

1. The Fellowship Application Form, including a one-page statement explaining career goals, research experiences, and interest in clinical research.

2. A curriculum vitae that highlights clinical, research, and work experience.

3. Maximum of two (2) optional professional letters of recommendations (either prior employer and or faculty) submitted confidentially via email. Letter of recommendation writers should email the letters of recommendation to the Office of the Associate Dean of Research & Graduate Education and Oday Hamid, PharmD using the instructions below.

**APPLICATION DEADLINES**

- All materials must be submitted by Friday, November 27th, 2020

Please send all required documents via email to BOTH:

- **Office of the Associate Dean of Research & Graduate Education** at research@rx.umaryland.edu

- **Oday Hamid, PharmD** at oday.hamid@AstraZeneca.com

All letters of recommendation must be sent from an institution or corporate email address. For all email correspondence, include in subject line — 2021 AstraZeneca Clinical Development Fellowship Application

For additional information on the program, please contact:

Peter Swaan, PhD (pswaan@rx.umaryland.edu)