USC-ALLERGAN FELLOWSHIP PROGRAM
2016-2017

In partnership with

Allergan

In partnership with
USC School of Pharmacy
ABOUT OUR COMPANY

Allergan plc (NYSE:AGN), headquartered in Dublin, Ireland, is a bold, global pharmaceutical company and a leader in a new industry model - Growth Pharma. Our company is focused on developing, manufacturing and commercializing branded pharmaceuticals, devices and biologic products for patients around the world. Allergan markets a portfolio of leading brands and best-in-class products for the central nervous system, eye care, medical aesthetics and dermatology, gastroenterology, women’s health, urology, and anti-infective therapeutic categories.

We are an industry leader in research and development, with one of the broadest innovative development pipelines in the pharmaceutical industry with 65+ mid-to-late stage pipeline programs in development. With commercial operations in approximately 100 countries, our company is committed to working with physicians, healthcare providers and patients to deliver innovative and meaningful treatments to help people around the world live longer, healthier lives.

Learn more at www.Allergan.com

OUR WORLD-CLASS MANUFACTURING AND R&D NETWORK

MANUFACTURING
- USA
  - Fall River, MA
  - Cincinnati, OH
  - Northern, CA (Biologics)
  - Irvine, CA (Biologics)
  - Waco, TX
  - Jersey City, NJ
  - Rockaway, NJ
  - Bridgewater, NJ
  - Irvine, CA

- COSTA RICA
  - Heredia, San Jose

- BRAZIL
  - Guarulhos

- IRELAND
  - Westport
  - Clonshaugh, Dublin
  - Westport

- BELGIUM
  - Liege

- UK
  - Liverpool
  - Marlow

- FRANCE
  - Pringy
  - Pringy

- GERMANY
  - Weiterstadt

- CHINA
  - Beijing
  - Shanghai

- JAPAN
  - Tokyo

- SINGAPORE
  - Singapore
ABOUT OUR SCHOOL

The USC School of Pharmacy is the only private pharmacy school on a major health sciences campus, which includes the Keck School of Medicine, Keck Hospital of USC and the USC Norris Comprehensive Cancer Center and is immediately adjacent to the LAC+USC Medical Center, one of the largest public hospitals in the country. Ranked by US News and World Report as a top ten pharmacy school nationwide and #1 among private schools, the USC School of Pharmacy is recognized for its century-old reputation for innovation in pharmaceutical education, clinical practice, and research. The School uniquely spans the entire spectrum of pharmaceutical development and clinical care – from drug discovery to regulatory approaches that promote safety and innovation, from delivery of patient care services to evaluating the impact of care on patient outcomes and costs. With a history of “firsts” that includes the nation’s first Pharm.D. program (1950), first clinical clerkship program (1968), first Ph.D. in pharmaceutical economics (1990), and first professional doctorate in regulatory science (2008), the School holds an essential leadership role in the safe, efficient, and optimal use of medication therapy that can save lives and improve the human condition.
The USC-Allergan Pharmaceutical Industry Fellowship Program is designed to prepare postdoctoral scholars for rewarding careers in the pharmaceutical industry. Fellows work with mentors to participate in activities that enhance the skills required to excel in their field. Graduate-level coursework and seminars may be included in the program, in addition to hands-on project activities in Allergan teams.

Upon completion of the program, fellows will be prepared for the challenges of a career in the pharmaceutical industry. Past fellows have been placed into rewarding positions in industry, pharmacy practice, and research. USC Pharmacy’s fellowship programs adhere to the guidelines of the American Association of Colleges of Pharmacy and the American College of Clinical Pharmacy. All fellowships begin July 1 and end on June 30.

**KEY HIGHLIGHTS**

- Access to USC Regulatory Science courses and tuition remission, up to 4 units per semester towards a graduate certificate
- Networking with USC students and alumni
- Participating in professional leadership workshops
- Financial relocation assistance for out-of-state fellows
- Financial support to attend professional conferences and events
- Delivering lectures to pharmacy students
- Recruiting prospective graduate and professional students to the Fellowship Program
CURRENT FELLOWS
Allergan partners with the University of Southern California School of Pharmacy to give you a distinctive fellowship advantage- a unique environment that develops your skills and fast-tracks your career.

PICTURED BACK ROW FROM LEFT TO RIGHT:

Eric Wager, Pharm.D.
Global Regulatory Affairs Fellow
Touro University California, College of Pharmacy

Quoc Ho, Pharm.D.
Clinical Development Fellow
University of Colorado, Denver
Skaggs School of Pharmacy and Pharmaceutical Sciences

Philip Armendi, Pharm.D.
Global Regulatory Affairs Fellow
Touro College New York, College of Pharmacy

Nicholas Frazier, Ph.D., M.S.
Drug Delivery Sciences Fellow
University of Utah

Tae Oh, Pharm.D.
Medical Affairs, External Scientific Communications Fellow
University of Maryland School of Pharmacy

PICTURED FRONT ROW FROM LEFT TO RIGHT:

Joyce Lau, Pharm.D.
Medical Affairs, Global Medical Scientific Information Fellow
University of Southern California, School of Pharmacy

Nayna Sanathara, Ph.D., M.S.
Pharmacodynamics and Target Engagement Fellow
University of California, Irvine

Anna Papinska, Ph.D., M.S.
Pharmacokinetics and Pharmacodynamics Fellow
University of Southern California

Hyona (Heidi) Chung, Pharm.D.
Medical Affairs, Global Phase IV Fellow
University of Southern California, School of Pharmacy

Sophia Lin, Ph.D., M.S.
Pharmaceutical Development Fellow
University of California, Irvine
This one-year fellowship focuses on bridging the gap between research and translational science efforts at Allergan. The fellow will be provided with learning opportunities in the design and implementation of pharmacological studies to elucidate pharmacodynamics (PD) and pharmacokinetics (PK) relationships of novel biologics. As part of the training program, the fellow will learn to mine existing literature, interpret relevant clinical and nonclinical data to guide study design and model development in an effort to better predict dose regimen selection for future non-clinical and clinical activities. This fellowship is intended to enhance the postdoctoral research training of the candidate through providing hands-on training in pharmacology and target engagement studies through in vivo protocol design and implementation, bioanalytic assay development, endpoint determination, data analysis and in silico modeling directed towards understanding the PD/PK relationship for Allergan programs.

OBJECTIVES
- Explain the role and contributions of Pharmacodynamics and Target Engagement studies to dose selection
- Integrate data from multiple sources to build a comprehensive understanding of PD/PK relationship of biological therapeutics
- Hands-on training and experience
- Create and deliver presentations to guide project and team discussions
- Attend, plan and participate in departmental meetings and seminars

APPLICATION REQUIREMENTS
- Pharm.D., M.D., or Ph.D. from an accredited university or equivalent
- Experience and coursework in pharmacology
- Good oral and written communication skills, ethics, professionalism, and an interest in biopharmaceutical industry
The one-year Pharmacokinetics (PK) and Pharmacodynamics (PD) Fellowship focuses on translational sciences and clinical pharmacology. The fellow will be provided with opportunities to analyze and translate nonclinical and clinical data to guide early clinical study design including dose regimen selection. As part of the training program, the fellow will participate in clinical study activities which include study conceptualization through protocol development, study execution, data analysis and reporting. As part of the translational effort, the fellow will mine existing nonclinical and clinical data to guide nonclinical model development in an effort to better predict human response. This fellowship is intended to enhance the postdoctoral research training of the applicant with hands-on training in the application of PK and drug disposition principles and modeling techniques to characterize the PK/PD relationship for key Allergan programs.

**OBJECTIVES**

- Participate in clinical study activities
- Integrate data from multiple sources to build a comprehensive PK/PD and toxicokinetic database in relations to Allergan candidate compounds
- Learn and utilize modeling and graphical software
- Create and deliver presentations to guide project team discussions with respect to dose selection and clinical pharmacology strategy
- Participate in departmental meetings and seminars

**APPLICATION REQUIREMENTS**

- Pharm.D. or Ph.D. from an accredited university or equivalent
- Experience and coursework in pharmacokinetics
- Good oral and written communication skills, ethics, professionalism, and an interest in biopharmaceutical industry
This one-year Clinical Development fellowship provides an immersive introduction to clinical research in global drug development. As an active member of multiple clinical teams, the fellow will develop an understanding of the principles and challenges in developing novel therapeutics, operating within GCP, ICH, and other agency guidelines. Under mentored guidance, the fellow will gain broad exposure to many interdisciplinary functional areas, while individualized objectives will tailor their involvement to projects of particular interest.

OBJECTIVES

• Explore the pharmacology of therapeutics and their clinical use
• Learn operational aspects of clinical trial design from startup, through execution, and closeout
• Develop and optimize study documents (eg. protocols, investigator brochures, procedure manuals, clinical development plans, informed consent forms, clinical study reports)
• Participate in processes of ongoing data review, analysis, and reporting
• Understand the roles and responsibilities of clinical team members

APPLICATION REQUIREMENTS

• Pharm.D., Ph.D., or M.D. degree from an accredited university or equivalent
• Completion of pharmaceutical industry rotation, internship, or previous exposure to clinical research is desirable
• Good oral and written communication skills, ethics, professionalism, and an interest in biopharmaceutical industry are required for all fellowship positions
The one-year Pharmaceutical Development fellowship focuses on the design and evaluation of novel ophthalmic and dermal formulations. As part of the training program, the fellow will be provided opportunities to gain first-hand experience with the different functional areas of the Small Molecule Product Development organization. This fellowship program is intended to give postdoctoral research training to support the fellow’s professional and career growth.

OBJECTIVES
• Design and evaluate novel ophthalmic and dermal formulations
• Evaluate the effect of excipients and processing parameters on quality and performance
• Investigate new formulation platform technologies
• Expand their technical writing skills by developing, reviewing, and writing protocols and technical reports

APPLICATION REQUIREMENTS
• Ph.D. in pharmaceutical chemistry, pharmaceutical sciences, biomedical engineering, chemical engineering, materials science, polymer science and engineering, physical chemistry, or a similar field
• In-depth understanding of basic science principles, physical chemistry and material properties
• Good oral and written communication skills, ethics, professionalism, and an interest in the biopharmaceutical industry are required for all fellowship positions
The one-year Drug Delivery Sciences fellowship focuses on the design of new drug delivery systems and process development—including inventing new drug delivery systems and exploring novel adaptations of existing systems. This fellowship is intended to give postdoctoral research graduates exposure to the pharmaceutical industry while advancing the fellow’s own research and professional growth. The focus of the program is to enhance the postdoctoral research training of the applicant and to provide an opportunity to integrate with the various departments and disciplines within the pharmaceutical industry. With an individualized plan based on input from the fellow, the fellow participates as a member of Allergan’s Drug Delivery Center of Excellence within Pharmaceutical Development.

OBJECTIVES

• Design and evaluate drug delivery systems for sustained release and targeted distribution to physiological sites of interest. This can encompass opportunities for innovation and discovery of novel technologies and methods for controlled therapeutics
• Investigate and develop new delivery systems based on polymers, emulsions or related disciplines. This may include training with life sciences personnel to evaluate and improve upon system prototypes

APPLICATION REQUIREMENTS

• Ph.D. in chemical engineering, biomedical engineering, materials science, polymer chemistry, colloidal chemistry, physical chemistry, pharmaceutical chemistry or a similar field
• An in-depth understanding of basic science principles, physical chemistry and material properties. Knowledge and experience in cell biology or biochemistry is also desirable
• Good oral and written communication skills, ethics, professionalism, and an interest in biopharmaceutical industry
GLOBAL REGULATORY AFFAIRS FELLOWSHIP

The one-year Global Regulatory Affairs (GRA) fellowship provides hands-on experience constructing global regulatory submission documents from the initial stages of document preparation to final submission. The fellow becomes a key component of the Core Team and shares the responsibility for facilitating timely submission and publishing of these documents to regulatory agencies across the globe. In addition, the fellow has the unique networking opportunity to manage several projects inside and outside of GRA as part of a comprehensive training program.

OBJECTIVES

• Assemble and manage regulatory documents in electronic Common Technical Document (eCTD) format that meet regulatory standards
• Review and discuss analytical method development, validation, and implementation with CMC team leaders and analytical scientists

APPLICATION REQUIREMENTS

• Pharm.D., Ph.D., or DRSc from an accredited university or equivalent
• Completion of M.S. in Regulatory Science, pharmacy industry-track courses and/or industry internship desirable
• Good oral and written communication skills, ethics, professionalism, and an interest in biopharmaceutical industry are required for all fellowship positions
The one-year Medical Affairs fellowship focuses on providing exposure to the following three pillars of functionality: Medical Information, Global Phase IV Trials and External Scientific Communications. The fellows will develop first-hand experiences in medical information database operations, management of post-marketing clinical research, and global strategic publication planning. This program will provide the fellows the necessary tools to become successful professionals within the pharmaceutical industry, as well as the opportunity to network with a lasting legacy of Allergan alumni-fellows.

OBJECTIVES

- Establish and maintain collaborative relationships with Medical directors, Medical Science Liaisons, Key Opinion Leaders (KOLs), Health Outcomes and Economics Research (HEOR), Marketing, and Principle investigators
- Assist in providing transparency to trial status, milestone progress and other trial metrics
- Partner with internal and external global stakeholders to strategically plan and disseminate Allergan’s key scientific data through high quality and medically relevant publications
- Provide information to support field-based MSL teams as needed for key opinion leaders

APPLICATION REQUIREMENTS

- Pharm.D., M.D. or Ph.D. in applicable study focuses from an accredited university
- Attendance and interviewing at the 2016 ASHP Midyear meeting is highly recommended
- Good oral and written communication skills, ethics, professionalism, leadership, and an interest in biopharmaceutical industry are required for all fellowship positions
FELLOWSHIP MENTORS

Loren Wagner, M.S.
Senior Director, Global Pharmaceutical Operations
Global Regulatory Affairs
Fellowship Mentor

Jimmie Overton, Pharm.D.
Senior Director, Global Medical Scientific Information and Library Services
Medical Affairs Fellowship Mentor

Susan Schneider, M.D.
Vice President and Therapeutic Area Head, Glaucoma and Retina
Clinical Development Fellowship Mentor

Miles McLennan, M.B.A.
Senior Director, Global Phase IV Trial Management
Medical Affairs Fellowship Mentor

Mayssa Attar, Ph.D.
Senior Director, Translational DMPK and Immunology
Pharmacokinetics and Pharmacodynamics Fellowship Mentor

Eric Forssen, Pharm.D., Ph.D.
Manager, Drug Delivery Sciences
Drug Delivery Sciences
Fellowship Mentor

Peter Baciu, Ph.D.
Research Investigator, Biological Sciences-Retinal Disease
Pharmacodynamics and Target Engagement Fellowship Mentor

Wil Glass, Ph.D.
Senior Director, External Scientific Communications
Medical Affairs Fellowship Mentor

Anu Gore, Ph.D.
Research Investigator, Small Molecule Product Development
Pharmaceutical Development Fellowship Mentor
PAST FELLOWS

SCHOOLS
- Albany College of Pharmacy
- Long Island University
- MCPHS
- Purdue University
- Rutgers University
- UC Berkeley
- UC Irvine
- UCLA
- UCSF
- UC San Diego
- USC
- University of Colorado
- University of Illinois, Chicago
- University of Iowa
- University of Maryland, Baltimore
- University of Oklahoma
- University of Washington
- University of South Carolina

GRADUATING DEGREES 2016-2017

40% Ph.D., M.S.

60% Pharm.D.
The USC-Allergan Pharmaceutical Industry Fellowship program provides exceptional preparation and education for postdoctoral graduates entering the pharmaceutical industry. Entry into the program is competitive and applicants are encouraged to review all admission requirements and deadlines prior to beginning the application process.

The University of Southern California is an Equal Opportunity/Affirmative Action employer. USC-Allergan Fellows are classified as students, and are affiliated with Allergan, plc for the purpose of training and career development.
REQUIREMENTS

To be admitted to the USC-Allergan Pharmaceutical Industry Fellowship program, you must have obtained:

• A Pharm.D., Ph.D., M.D. or equivalent doctorate degree from an accredited college or university within five years of initial appointment

ADMISSION

To apply, go to [http://web-app.usc.edu/web/pharmacy/application](http://web-app.usc.edu/web/pharmacy/application) where you will be asked to provide:

• The email addresses of three references
• Curriculum Vitae (CV)
• Letter of intent
• Official pharmacy school, medical school, or graduate school transcript

CONTACT INFORMATION

William C. Gong, Pharm.D., FASHP, FCSHP
Director, Residency and Fellowship Training
Associate Professor of Clinical Pharmacy
University of Southern California
School of Pharmacy
1985 Zonal Avenue
Los Angeles, California 90089-9121

Telephone: (323) 442-2625
Email: wgong@usc.edu | Residentfellow@usc.edu

Mail official transcripts to:
Pharmacy Residency & Fellowship Training,
1985 Zonal Avenue, PSC B-15 Los Angeles, CA 90033

Additional information available at:
[http://pharmacyschool.usc.edu/programs/fellowship/](http://pharmacyschool.usc.edu/programs/fellowship/)

DEADLINE

Candidates are required to complete the online application and submit required materials by December 12th.