USC-ALLERGAN FELLOWSHIP PROGRAM
2017-2018

In partnership with
Allergan

In partnership with
USC School of Pharmacy
Allergan plc (NYSE: AGN), headquartered in Dublin, Ireland, is a bold, global pharmaceutical company and a leader in a new industry model – Growth Pharma. We are focused on developing, manufacturing and commercializing branded pharmaceutical, device, biologic, surgical and regenerative medicine products for patients around the world.

We market 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 Open Science, a model of research and development, which defines our approach to identifying and developing game-changing ideas and innovation for better patient care. With this approach, Allergan has built one of the broadest development pipelines in the pharmaceutical industry with 65+ mid-to-late stage pipeline programs currently in development.


OUR WORLD-CLASS MANUFACTURING AND R&D NETWORK

**MANUFACTURING**

**R&D**

**USA**
- Branchburg, NJ
- Cincinnati, OH
- Northern CA (Biologics)
- Irvine, CA (Biologics)
- Dublin, CA
- Waco, TX
- Madison, NJ
- Branchburg, NJ
- Irvine, CA
- Pleasanton, CA

**IRELAND**
- Clonshaugh
- Westport
- Galway
- Westport

**UK**
- Liverpool
- Marlow

**BELGIUM**
- Liege

**FRANCE**
- Pringy

**GERMANY**
- Weiterstadt

**BRAZIL**
- Guarulhos

**COSTA RICA**
- San Jose

**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:

Grigor Abelian, Pharm. D.
Clinical Pharmacology Fellow
University of the Sciences, Philadelphia

Mia Mackowski, Pharm.D., M.S.
Clinical Development Fellow
University of Southern California

Neda Nguyen, Pharm. D.
Global Regulatory Affairs-Chemistry Manufacturing, and Control Fellow
University of California, San Francisco

Brittany Jordan, Pharm. D.
Medical Affairs Fellow, Publications
University of Pittsburgh

PICTURED FRONT ROW FROM LEFT TO RIGHT:

Phoebe Wong, Pharm. D.
Medical Affairs, Medical Communications Fellow
Temple University

Trever Todd, Ph.D.
Drug Delivery Sciences Fellow
University of Georgia

Melissa Downey, Pharm. D., M.S.
Medical Affairs, Medical Communications Fellow
Temple University

Elena Liang, Ph.D., M.S.
Small Molecule Product Development Fellow
University of California, Irvine

Palak Prasad, Pharm. D.
Medical Affairs, Global Phase IV Fellow
University of Colorado, Skaggs School of Pharmacy

Ashley Nguyen, Pharm. D.
Clinical Development Fellow
Virginia Commonwealth University
This one-year Clinical Pharmacology Fellowship focuses on developing the clinical and quantitative skills required of a clinical pharmacology scientist. The fellow will be provided opportunities to gain expertise in nonclinical pharmacokinetics (PK), translational science including development of target engagement strategies, clinical pharmacology, and pharmacometrics.

As part of the training program, the fellow will participate in clinical and nonclinical study design, protocol development, study execution, and cross functional core team interactions spanning all of Allergan’s therapeutic areas. The translational component will allow the fellow to mine existing nonclinical and clinical data to guide early clinical study design and dose regimen selection. As part of the quantitative skills development, the fellow will learn how to conduct pharmacokinetic/pharmacodynamic (PK/PD) data analysis, interpretation, and presentation through Phoenix WinNonlin training. Additionally, interested fellows can gain expertise in population PK/PD modeling and simulation through NONMEM training.

Objectives:
- Learn how to independently design and conduct clinical pharmacology and nonclinical PK studies
- Serve as a Clinical Pharmacology Representative on projects teams to guide dose selection and clinical pharmacology strategy
- Be able to execute, interpret, and deliver PK/PD analyses
- Participate in global clinical study operational activities (start-up, execution, close-out)
- If applicable, present work at a professional meeting and/or author a scientific publication

APPLICATION REQUIREMENTS
- Pharm.D. or Ph.D. from an accredited university or equivalent
- Experience and coursework in pharmacokinetics
- Excellent oral and written communication skills, ethics, professionalism, leadership, and an interest in the 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, while 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
• Develop and optimize study documents (eg. protocols, investigator brochures, procedure manuals, clinical development plans, informed consent forms, clinical study reports)
• Learn operational aspects of clinical trial design from startup, through execution, and closeout
• 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
• Excellent oral and written communication skills, ethics, professionalism, leadership, and an interest in the biopharmaceutical industry
The one-year Small Molecule Product Development fellowship focuses on the design and evaluation of novel oral, ophthalmic, and dermal/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 oral, ophthalmic, and dermal formulations
• Evaluate the effect of excipients and processing parameters on quality and performance
• Investigate new formulation platform technologies
• Expand 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
• Excellent oral and written communication skills, ethics, professionalism, leadership, and an interest in the biopharmaceutical industry
Core Allergan therapeutic areas, such as Eye Care and Medical Aesthetics & Dermatology, are highly reliant on local delivery of drugs to enable the desired therapeutic effect. Allergan’s Drug Delivery Center of Excellence, part of Pharmaceutical Development, has established industry-leading drug delivery capabilities (e.g. bio-erodible sustained release) to support a diverse portfolio of small molecule and biologic drug products. The one-year Drug Delivery Sciences fellowship focuses on the design and development of new drug delivery systems and related capabilities including new technologies and novel adaptations of existing systems. This fellowship is intended to give postdoctoral researchers exposure to conducting R&D in the pharmaceutical industry, while advancing the fellow’s own scientific and professional growth. The fellow will also have the opportunity to collaborate with colleagues in other departments and disciplines within R&D.

OBJECTIVES
• Contribute to the advancement of Allergan’s science in one or more areas of sustained or targeted drug delivery.
• Collaborate with other scientists, both within and outside the department, to design and evaluate drug delivery systems and enable new products that address unmet medical need.

APPLICATION REQUIREMENTS
• Ph.D. in chemical engineering, biomedical engineering, materials science, polymer chemistry, colloidal chemistry, physical chemistry, pharmaceutical chemistry or a similar field.
• Subject matter expertise in areas such as an in-depth understanding of basic science principles, drug delivery, formulation, physical chemistry and material science properties. Knowledge and experience in cell biology or biochemistry is also desirable.
• Excellent oral and written communication skills, ethics, professionalism, and an interest in the biopharmaceutical industry
REGULATORY AFFAIRS - CHEMISTRY, MANUFACTURING, AND CONTROLS FELLOWSHIP

The one-year Global Regulatory Affairs-Chemistry, Manufacturing, and Controls (GRA-CMC) Fellowship provides fellows with an overview of RA-CMC responsibilities including exposure to regulatory CMC strategy required to achieve health authority approvals. The fellow will have 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
• Excellent oral and written communication skills, ethics, professionalism, leadership, and an interest in the biopharmaceutical industry are required for all fellowship positions
The one-year Medical Affairs fellowship focuses on providing exposure to one of the following three pillars of functionality: Medical Information, Global Phase IV Trials, or External Scientific Communications. The fellows will select a specialty and 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 Economics and Outcomes Research, 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 2017 ASHP Midyear meeting is highly recommended
• Excellent oral and written communication skills, ethics, professionalism, leadership, and an interest in the biopharmaceutical industry are required for all fellowship positions
FELLOWSHIP MENTORS

Loren Wagner, M.S.
Associate Vice President, Global Pharmaceutical Operations
Global Regulatory Affairs-CMC Fellowship Mentor

Jimmie Overton, Pharm.D.
Associate Vice President Global Medical Scientific Information
Medical Affairs Fellowship Mentor

Kevin Kerr, Pharm.D., M.S.
Associate Director, Clinical Development – Ophthalmology
Clinical Development Fellowship Mentor

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

Gudarz Davar, M.D.
Executive Director, Clinical Development – CNS
Clinical Developmental Fellowship Mentor

Mayssa Attar, Ph.D.
Vice President Non-Clinical and Translational Sciences
Clinical Pharmacology Fellowship Mentor

James Cunningham, Ph.D.
Director, Drug Delivery Sciences
Drug Delivery Sciences Fellowship Mentor

Wil Glass, Ph.D.
Associate Vice President, External Scientific Communications
Medical Affairs Fellowship Mentor

Chiem Pham, Ph.D.
Associate Director, Small Molecule Product Development
Small Molecule Product Development Fellowship Mentor
### RECENT PAST FELLOWS

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Company/Institution</th>
<th>Fellowship Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anna Papinska, Ph.D., M.S.</td>
<td>Clinical Pharmacology Scientist</td>
<td>Allergan PLC</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Eric Wager, Pharm. D.</td>
<td>Regulatory Affairs CMC Specialist</td>
<td>Halozyme Therapeutics</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Hyona (Heidi) Chung, Pharm. D.</td>
<td>Medical Science Liaison of Medical Dermatology</td>
<td>Allergan PLC</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Nicholas Frazier, Ph.D., M.S.</td>
<td>R&amp;D Engineer, Applied Biosensors</td>
<td>Applied Biosensors</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Quoc Ho, Pharm. D.</td>
<td>Manager of External Scientific Communications, Eye Care</td>
<td>Allergan PLC</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Sophia Lin, Ph.D., M.S.</td>
<td>Research Translation Specialist</td>
<td>University of California, Irvine</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Tae Oh, Pharm. D.</td>
<td>US Scientific Advisor in Medical Affairs</td>
<td>Allergan PLC</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Philip Armendi, Pharm. D.</td>
<td>Regulatory Affairs Senior Analyst</td>
<td>Allergan PLC</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Himanshu Sharma, Ph. D.</td>
<td>Investigator</td>
<td>GlaxoSmithKline</td>
<td>2016-2017</td>
</tr>
<tr>
<td>Jeff Penzner, Pharm. D.</td>
<td>Clinical Development Manager</td>
<td>Allergan PLC</td>
<td>2015-2016</td>
</tr>
<tr>
<td>Jesse Ho, Pharm. D.</td>
<td>Associate Director of Regulatory Affairs</td>
<td>Puma Biotechnology</td>
<td>2015-2016</td>
</tr>
<tr>
<td>Nicole Naccara, Pharm. D.</td>
<td>External Scientific Communications Manager- Urology &amp; SMD</td>
<td>Medical Affairs, Global Phase IV</td>
<td>2015-2016</td>
</tr>
<tr>
<td>Roger Shih, Ph.D.</td>
<td>Postdoctoral Fellow</td>
<td>Wheeler Lab at University of Toronto</td>
<td>2015-2016</td>
</tr>
<tr>
<td>Sarwang Shah, Pharm. D.</td>
<td>Medical Science Liaison of Medical Dermatology</td>
<td>Allergan PLC</td>
<td>2015-2016</td>
</tr>
<tr>
<td>John Sekab, Pharm. D.</td>
<td>Medical Science Liaison-Eye Care Team</td>
<td>Allergan PLC</td>
<td>2014-2015</td>
</tr>
<tr>
<td>Wayne Chen, Pharm. D.</td>
<td>Senior Clinical Pharmacology Scientist</td>
<td>Allergan PLC</td>
<td>2014-2015</td>
</tr>
<tr>
<td>Colleen Tholen, Pharm. D.</td>
<td>Associate Manager of Medical Information</td>
<td>Avanir Pharmaceuticals</td>
<td>2014-2015</td>
</tr>
</tbody>
</table>

**Note:** The fellowships listed above are the recent past fellows of the USC-Allergan Fellowship Program 2017-2018.
PAST FELLOWS

SCHOOLS
- Albany College of Pharmacy
- Long Island University
- MCPHS
- Purdue University
- Touro College California
- 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
- Touro College New York
- University of South Carolina
- University of Utah

GRADUATING DEGREES 2017-2018

2016
2015
2014
2013
2012
2011
2010
2009
2008
2007
2006

20% Ph.D.
80% Pharm.D.
DISTRIBUTION OF FELLOWS BY DEPARTMENT 2017-2018

- 30% Medical Affairs
- 20% Global Regulatory Affairs-CMC
- 20% Clinical Development
- 10% Small Molecule Product Development
- 10% Clinical Pharmacology
- 10% Drug Delivery Sciences
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

### DEADLINE
Candidates are required to complete the online application and submit required materials by December 11th

### PROGRAMS OFFERED
<table>
<thead>
<tr>
<th>University</th>
<th>UNIVERSITY OF SOUTHERN CALIFORNIA School of Pharmacy</th>
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</thead>
<tbody>
<tr>
<td>University Location</td>
<td>Los Angeles, CA</td>
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<tr>
<td>Allergan Location</td>
<td>Irvine, CA</td>
</tr>
<tr>
<td>Program Length</td>
<td>1 year</td>
</tr>
</tbody>
</table>
| Programs Offered | • Regulatory Affairs - Chemistry, Manufacturing, and Controls  
• Clinical Development  
• Clinical Pharmacology  
• Small Molecule Product Development  
• Drug Delivery Sciences  
• Medical Affairs |
| Eligibility | PharmD, MD, PhD or equivalent doctorate degree from an accredited college or university within five years of initial appointment |

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

### CONTACT INFORMATION
William C. Gong, Pharm.D., FASHP, FCSHP  
Director, Residency and Fellowship Programs  
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 Programs,  
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/)