

Is a Career in the  
*Pharmaceutical  
Sciences*

Right for Me?



Check out our online Student  
Center to find out more:

[www.aapspharmaceutica.com/students](http://www.aapspharmaceutica.com/students)



**aaps**

American Association of  
Pharmaceutical Scientists

# How do I know if a career in the pharmaceutical sciences is right for me?

- Do you enjoy science and want to pursue a science-based career?
- Do you like to work hands-on in a laboratory setting?
- Do you have a desire to contribute to the health and well-being of society through the development of medicines and therapies?



*If so, a career in pharmaceutical sciences may be a good choice for you!*

## What are the Pharmaceutical Sciences?

The pharmaceutical sciences combine a broad range of scientific disciplines that are critical to the discovery and development of new drugs and therapies. Pharmaceutical sciences can be broadly classified into the following main categories, with many specialized fields within each category:

- **Analysis and Pharmaceutical Quality** – provides a forum for the exchange of information pertaining to analytical techniques, regulatory and compendial issues, and assurance of quality.
- **Biotechnology** – enables individuals from multiple scientific disciplines to address issues, share information and experimental findings, and provide education for research, development, and commercialization of new biopharmaceuticals.
- **Clinical Pharmacology and Translational Research** – provides the clinical research dimension within the comprehensive range of pharmaceutical sciences and is concerned with issues related to the clinical use of pharmaceuticals.
- **Drug Design and Discovery** – encourages the generation of knowledge concerning the chemistry, biochemistry, and pharmacological actions of synthetic and naturally occurring medicinal agents.
- **Formulation Design and Development** – unites multiple scientific disciplines in order to share experimental results, consider new formulation and dosage form technologies, and discuss issues and concerns regarding the design and development of formulations/drug products for small molecules.
- **Manufacturing Science and Engineering** – unite of scientists and engineers interested and involved in the application and advancement of science and technology to the manufacture of pharmaceutical and pharmaceutically related products.
- **Pharmacokinetics, Pharmacodynamics and Drug Metabolism** – provides a forum to examine issues related to the biopharmaceutics, pharmacokinetics, pharmacodynamics, drug metabolism and transport of pharmaceutical products and therapies.
- **Physical Pharmacy and Biopharmaceutics** – focuses on a quantitative understanding of the intrinsic properties of the molecule and the interacting biological system, enabling the selection of developable drug candidates and the identification of potential strategies for optimal drug delivery.
- **Regulatory Sciences** – analyses information on product performance, addresses issues regarding drug law and resultant regulations, and promotes science-based regulations to help drug regulatory agencies protect public health and safety.

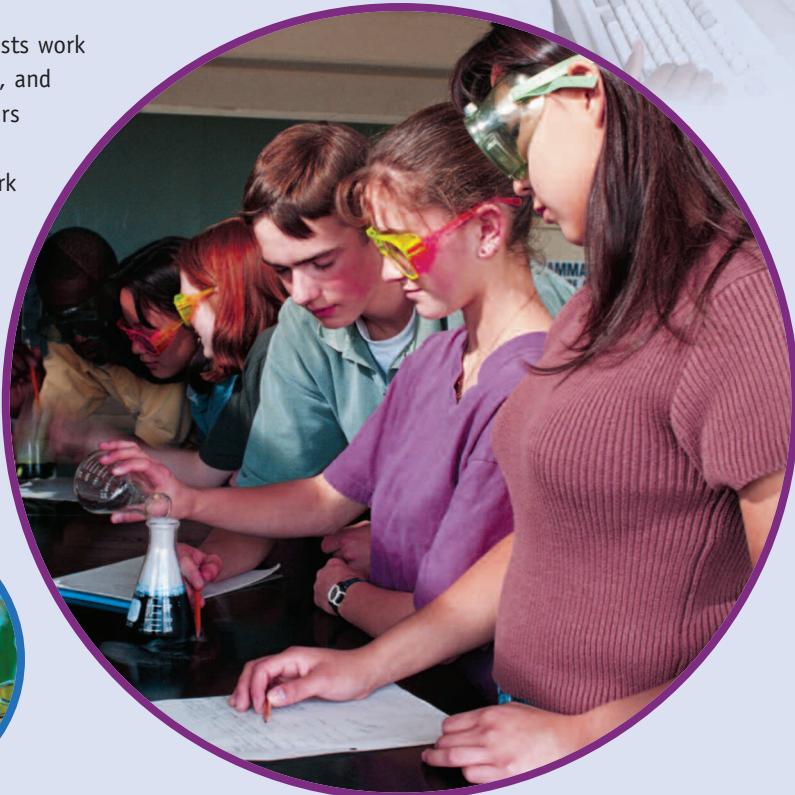
*“The field of pharmaceutical sciences offers me a harmonious balance of basic and applied sciences training, and is perfectly aligned with my personal goal of improving public health.”*

— **Joe Wen-Kai Su**  
University of Wisconsin at Madison

## What is the Difference Between a Pharmaceutical Scientist and a Pharmacist?

Pharmaceutical scientists are typically involved in the development of new drugs: discovery, drug delivery systems, drug absorption, distribution, metabolism, and elimination characteristics. They spend most of their time doing research in a laboratory or office setting.

On the other hand, pharmacists work with existing drugs, patients, and other healthcare practitioners to optimize patient care and drug use. They often work face-to-face with physicians (drug selection and use) and patients (best use of medications).



*“There is a great degree of professional satisfaction and enjoyment that I experience when I encourage students to consider a career in our field.”*

— **Gregory Knipp, Ph.D.**  
Purdue University



## Career Opportunities in the Pharmaceutical Sciences

Over the years, pharmaceutical scientists have been instrumental in discovering and developing innovative drugs that save thousands of lives and improve countless others. Pharmaceutical scientists can pursue a variety of career opportunities/jobs. They are employed by pharmaceutical and biotechnology companies, they work as researchers, scientists and professors at universities, for agencies like the Food and Drug Administration (FDA), U.S. Pharmacopeia (USP), and at national laboratories such as the National Institutes of Health (NIH).



*“Your education doesn’t stop when you graduate. It is a life long pursuit.”*

— **Ronald R. Bowsher, Ph.D.**  
B2S Consulting

## A recent salary and employment status survey\* of AAPS Members reported the following key findings:

The current average starting salary for individuals beginning their career in 2007 was \$85,000.

The mean base salaries of Ph.D. respondents with 0-5 years of experience was \$87,000.

The average salaries were:

### INDUSTRY

- Ph.D. \$ 127,000
- M.S. \$ 99,500
- B.S. \$ 88,000

### ACADEMIA

- Ph.D. \$ 95,000

### GOVERNMENT

- Ph.D. \$ 113,000

Approximately one half of survey respondents with 0-5 years of experience were female.

\*2007 Salary Survey

*“One of the best ways that AAPS can advance the future direction of the pharmaceutical sciences is to actively recruit and involve the students of today. We provide a dynamic international forum for the exchange of knowledge among scientists to enhance their contributions to health, and offer timely scientific programs, ongoing education, opportunities for networking, and professional development.”*

— **John Lisack, Jr., CAE**  
*Executive Director,  
American Association of  
Pharmaceutical Scientists*

## How Can I Become a Pharmaceutical Scientist?

There are many ways to pursue a career in the pharmaceutical sciences. You can obtain an undergraduate or advanced degree in pharmaceutical sciences, pharmacy, biology, chemistry, medicine, or engineering. Conversely, you can also find a rewarding position with degrees in economics, marketing, or business. It takes a multi-disciplinary effort and a variety of skills to develop new and effective medicines.

## Career Network

The American Association of Pharmaceutical Scientists (AAPS) also has an online **Career Network** to help our members with their career needs.

### Visit

[www.aapspharmaceutica.com/CareerCenter/](http://www.aapspharmaceutica.com/CareerCenter/)

- Search internship programs
- Network with employers/recruiters in the pharmaceutical field at area career fairs
- Online Résumé/CV Submission
- Attend career development seminars and workshops
- Receive career counseling onsite and online



# About The American Association of Pharmaceutical Scientists

The American Association of Pharmaceutical Scientists (AAPS) is a professional, scientific society of more than 13,000 members employed in academia, industry, government and other research institutes worldwide. Founded in 1986, AAPS provides a dynamic international forum for the exchange of knowledge among scientists to enhance their contributions to health. We offer timely scientific programs, ongoing education, opportunities for networking, and professional development. For more information about AAPS, visit AAPS Pharmaceutica at [www.aapspharmaceutica.com](http://www.aapspharmaceutica.com).

## Where Can I Get More Information About the Pharmaceutical Sciences?

Visit these sites to learn more:

- [www.aapspharmaceutica.com/students](http://www.aapspharmaceutica.com/students)  
**Online Student Center:** The AAPS Student Center provides a wealth of information and resources specifically targeted to students and post-docs.
- [www.aapspharmaceutica.com/primers](http://www.aapspharmaceutica.com/primers)  
**AAPS Primers:** Learn more about the day-to-day lives of pharmaceutical scientists working in industry, academia and government.
- [www.aapspharmaceutica.com/CareerCenter](http://www.aapspharmaceutica.com/CareerCenter)  
**Career Network:** The AAPS Career Network provides members with career and networking opportunities, and resources for professional development both online and onsite at AAPS meetings and expositions.
- [www.aapspharmaceutica.com/vsp](http://www.aapspharmaceutica.com/vsp)  
**Visiting Scientist Program:** Through this program, AAPS matches scientific speakers with schools interested in hosting educational speaking engagements.



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