



# Scientific Careers at FDA: Where Science Meets Regulations and Public Health



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Division of Therapeutic Performance I Office of Research and Standards Office of Generic Drugs CDER | U.S. FDA

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# My Background



### **Education**

Wayne State University (Detroit, MI, USA)

Bachelors of
Science in
Biomedical
Physics Honors
University Honors

(2011)

Masters of Science in Biomedical Engineering (2012) Doctor of Philosophy in Chemical Engineering (2018) University of São Paulo (São Paulo, Brazil)

Virginia Commonwealth University (Richmond, VA, USA)

#### **Dissertation:**

Drug Delivery Strategies for the Treatment of Advanced Lung Cancer and Various Lung Metastases

### Work

Office of Research and Standards,
Office of Generic Drugs, FDA

ORISE Fellowship at FDA

2018

2020

- Chemist
- Pharmacologist

SeniorPharmacologist

2022

www.fda.gov

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# FDA's Mission

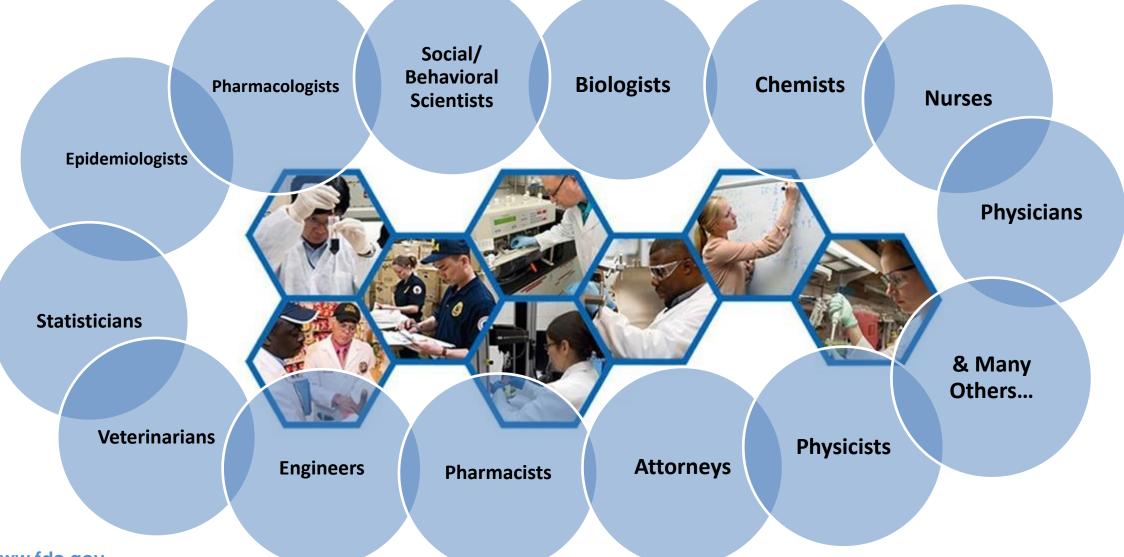


- Protecting the public health by ensuring the safety, efficacy, and security of human and veterinary drugs, biological products, and medical devices.
- Ensuring the *safety* of our nation's **food supply**, *cosmetics*, and *products that emit radiation*.
- Regulating the manufacturing, marketing, and distribution of tobacco products to protect
  the public health and to reduce tobacco use by minors.
- Advancing the public health by helping to speed innovations that make medical products more effective, safer, and more affordable and by helping the public get the accurate, science-based information they need to use medical products and foods to maintain and improve their health.
- FDA also plays a significant role in the Nation's counterterrorism capability. FDA fulfills
  this responsibility by ensuring the security of the food supply and by fostering
  development of medical products to respond to deliberate and naturally emerging public
  health threats.

What We Do: <a href="https://www.fda.gov/about-fda/what-we-do">https://www.fda.gov/about-fda/what-we-do</a>.

# Who Works at FDA?

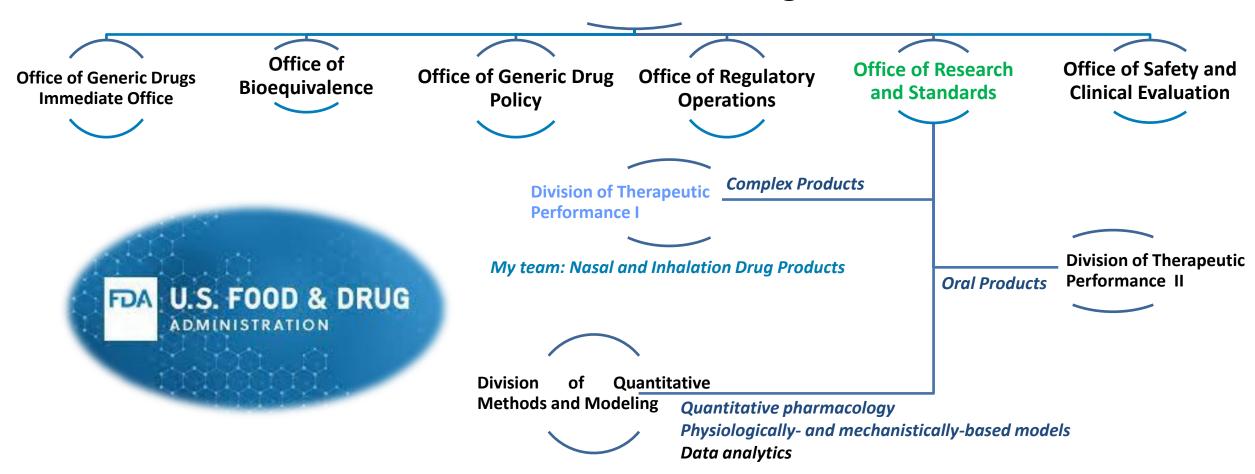




# Office of Research and Standards



#### **Office of Generic Drugs**







## **Generic Drugs – Focus on Complex Drug Products**

**Generic Drug Applications: Abbreviated New Drug Applications (ANDA)** 

#### Regulatory

- Supports pre-ANDA assessment process (work prior to submission of the applications)
  - Controlled Correspondences to address industry's scientific inquiries on their generic drug development
  - Pre-ANDA Meetings (Industry Meetings) to provide scientific advice to potential applicants
  - Product-specific guidances to inform industry on suitable study designs for establishing bioequivalence
- Supports ANDA process via consults
  - Address scientific questions on current generic drug applications
- Support scientific questions on policy related concerns (e.g., citizens petitions)

#### **Regulatory Science**

- Conducts regulatory scientific research
  - Collaborations with academia, industry, and other government agencies
- Translates regulatory science research into
  - Scientific posters, presentations, publications
  - General guidances, product-specific guidances, and other documents

ORS's work is to provide clear pathways and establish standards to ensure therapeutic equivalence of generic versions of complex and non-complex drug products.

# A Day in the Life in ORS



### Work on a variety of assignments and projects per day

- Attend and participate meetings with colleagues
  - Discuss scientific issues related to assignments, guidances, and various working groups within my team and across the Agency
- Meet with industry
- Write reviews
  - Controlled correspondences, pre-ANDA meetings, ANDA consults, product-specific guidances, etc.
- Manage research projects
  - Meetings with collaborators within and outside FDA
  - Handle contract and grant administrative issues
  - Collaborate on scientific input
- Attend scientific conferences
- Write scientific manuscripts
- Attend available trainings and mentorship programs to continue professional development



# Why Work at FDA?



**Unique Experience: Where Regulations and Science Meet** 

Serve the Health of the U.S. Public

**Diverse Workforce of Dedicated Professionals** 

Flexible Work Schedules

**Great Benefits** 

# **Opportunities at FDA**



### Opportunities:

#### **ORISE Fellowships**

Currently open Oak Ridge Institute for Science and Education (ORISE) fellowship announcements:

- FDA Modeling and Simulation Fellowship
- FDA In Vitro and In Vivo Bioequivalence Fellowship
- FDA Bioequivalence of Complex Generic Products Fellowship 🗹
- FDA Product Specific Guidance and Research Fellowship 🗹

#### **ORISE Fellowships in ORS:**

https://www.fda.gov/drugs/generic-drugs/generic-drug-research-collaboration-opportunities.



#### Interested?

- Reach out to me or others at FDA
  - Elizabeth.Bielski@fda.hhs.gov
  - Jobs@FDA
  - Zintellect

#### Unsure?

- Talk to folks at FDA
- Read up on available resources
- Never be afraid to ask questions
- Network

# Resources



- Scientific Careers at FDA: <a href="https://www.fda.gov/about-fda/jobs-and-training-fda/scientific-careers-fda#:~:text=FDA%20employs%20scientists%20in%20a,please%20explore%20the%20resources%20below.">https://www.fda.gov/about-fda/jobs-and-training-fda/scientific-careers-fda#:~:text=FDA%20employs%20scientists%20in%20a,please%20explore%20the%20resources%20below.</a>
- White Oak Campus: <a href="https://www.youtube.com/watch?v=DqimZYtaqHw">https://www.youtube.com/watch?v=DqimZYtaqHw</a>.
- What Does FDA do?: <a href="https://youtu.be/1D8mOu6SyX4">https://youtu.be/1D8mOu6SyX4</a>.
- U.S. FDA (YouTube): <a href="https://www.youtube.com/c/USFoodandDrugAdmin">https://www.youtube.com/c/USFoodandDrugAdmin</a>.
- Generic Drug Research Collaboration Opportunities: <a href="https://www.fda.gov/drugs/generic-drug-research-collaboration-opportunities">https://www.fda.gov/drugs/generic-drugs/generic-drug-research-collaboration-opportunities</a>.
- Scientific Internships, Fellowships / Trainees and Non-U.S. Citizens: <a href="https://www.fda.gov/about-fda/jobs-and-training-fda/scientific-internships-fellowships-trainees-and-non-us-citizens">https://www.fda.gov/about-fda/jobs-and-training-fda/scientific-internships-fellowships-trainees-and-non-us-citizens</a>.

