

Opportunity Title: FDA Physicochemical Characterization of Breast Implants Internship

Opportunity Reference Code: FDA-OWH-2020-0015

Organization U.S. Food and Drug Administration (FDA)

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How to Apply *Connect with ORISE...on the GO!* Download the new ORISE GO mobile app in the Apple or Google Play Store to help you stay engaged, connected, and informed during your ORISE experience and beyond!

A complete application consists of:

- An application
- Transcripts – Click [here](#) for detailed information about acceptable transcripts
- A current resume/CV, including academic history, employment history, relevant experiences, and publication list
- One educational or professional recommendation

All documents must be in English or include an official English translation.

If you have questions, send an email to ORISE.FDA.OC.other@orau.org. Please include the reference code for this opportunity in your email.

Application Deadline 12/23/2020 3:00:00 PM Eastern Time Zone

Description **Applications will be reviewed on a rolling-basis.*

A research opportunity is currently available with the Office of the Commissioner (OC) Office of Women's Health (OWH), U.S. Food and Drug Administration (FDA). The project will be located at the U.S. Food and Drug Administration (FDA), Center for Devices and Radiological Health (CDRH), Office of Science and Engineering Laboratories (OSEL), Division of Biology, Chemistry, and Materials Science (DBCMS) located in Silver Spring, Maryland.

This project will focus on the characterization of surface texture and material properties of breast implants. The research aims to develop an implant surface classification system based on the advanced characterization, identify chemicals and shed particles from surface, and study possible causes to breast implant complications. Under the guidance of a mentor, the participant will be involved in the following research activities:

- 3D imaging with advanced imaging microscopes
- Surface property characterization
- Developing and performing extraction methods
- Characterization of released extractable and particles
- Instrument maintenance
- Documenting experimental data and research activities
- General chemistry lab activities
- General microbiology lab activities

Anticipated Appointment Start Date: Fall 2020

This program, administered by ORAU through its contract with the U.S. Department of Energy to manage the Oak Ridge Institute for Science and Education, was established through an interagency agreement between DOE and FDA. The initial



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appointment is for one year, but may be renewed upon recommendation of FDA contingent on the availability of funds. The participant will receive a monthly stipend commensurate with educational level and experience. Proof of health insurance is required for participation in this program. The appointment is full-time at FDA in the Silver Spring, Maryland, area. Participants do not become employees of FDA, DOE or the program administrator, and there are no employment-related benefits.

Completion of a successful background investigation by the Office of Personnel Management is required for an applicant to be on-boarded at FDA. OPM can complete a background investigation only for individuals, including non-US Citizens, who have resided in the US for a total of three of the past five years.

FDA requires ORISE participants to read and sign their FDA Education and Training Agreement within 30 days of his/her start date, setting forth the conditions and expectations for his/her educational appointment at the agency. This agreement covers such topics as the following:

- Non-employee nature of the ORISE appointment;
- Prohibition on ORISE Fellows performing inherently governmental functions;
- Obligation of ORISE Fellows to convey all necessary rights to the FDA regarding intellectual property conceived or first reduced to practice during their fellowship;
- The fact that research materials and laboratory notebooks are the property of the FDA;
- ORISE fellow's obligation to protect and not to further disclose or use non-public information.



Qualifications

The qualified candidate should be currently pursuing or have received a doctoral degree in one of the relevant fields. Degree must have been received within five years of the appointment start date.

Preferred skills:

- Experience in characterization of surface topographical aspects including roughness, skewness, kurtosis, porous structure, pore size and connectivity.
- Knowledge of material physicochemical properties including contact angle, surface energy and elastic modulus.
- Experience in liquid chromatography (LC), gas chromatography (GC), and Liquid chromatography/mass spectrometry (LC/MS)
- Broad knowledge in the areas of microbiology, cell biology and chemistry related to leachable and extractables.
- Skills with use of computer software packages including Microsoft Excel and Word, and instrument control software
- Communication skills, including effective scientific presentation, technical writing, method documentation, and laboratory record keeping

Eligibility Requirements

- **Degree:** Doctoral Degree received within the last 60 months or currently pursuing.
- **Academic Level(s):** Graduate Students or Postdoctoral.
- **Discipline(s):**
 - **Chemistry and Materials Sciences** (12 )
 - **Engineering** (4 )

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- **Science & Engineering-related** (1 )