Opportunity Title: FDA Histological Image Analysis for Ovarian Cancer Diagnosis
Opportunity Reference Code: FDA-CDRH-2019-0011

Organization	U.S. Food and Drug Administration (FDA)
Reference Code	FDA-CDRH-2019-0011
How to Apply	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. Your application will be considered incomplete, and will not be reviewed until one recommendation is submitted.

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

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

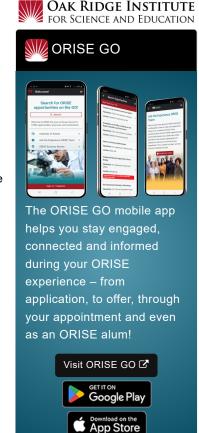|	
Application Deadline	6/24/2019 3:00:00 PM Eastern Time Zone
Description	A summer research opportunity is available in the Division of Imaging, Diagnostics, and Software Reliability, within the Office of Science and Engineering Laboratories (OSEL), Center for Devices and Radiological Health (CDRH), Food and Drug Administration (FDA) in Silver Spring, Maryland.

The goal of this project is to focus on the primary diagnosis of ovarian cancer. In previous work FDA has conducted observer studies to assess inter-pathologist concordance in classifying the different subtypes of ovarian cancer. Findings identified the difficulty in characterizing certain histologic patterns important to subtype classification. The objective now is to develop and evaluate a clinical decision support tool to assist in the primary diagnosis of ovarian cancer subtype.

During the research appointment the participant will learn how to develop a machine learning algorithm for extracting histological patterns from whole slide images (WSI) of ovarian carcinomas. This experience will allow him to understand concepts related to digital pathology and how can such tools be used in clinical practice.

Anticipated Appointment Start Date: June 24, 2019.

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 appointment is for 3 months, 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

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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 must have a High School degree.

The preferred candidate will have experience in machine learning programming, with experience in image analysis of digital pathology images and advanced programming skills, languages such as Python (including Python scientific stack NumPy, SciPy, pandas, scikit-learn, scikit-image, etc.), and at least one major deep learning framework (TensorFlow, Caffe, etc.).

Eligibility Requirements
- **Citizenship:** U.S. Citizen Only
- **Degree:** High School Diploma/GED received within the last 60 month(s).
- **Academic Level(s):** K-12 Students or Undergraduate Students.
- **Discipline(s):**
  - **Computer, Information, and Data Sciences** (1 👁)