VACANCY ANNOUNCEMENT

DEPARTMENT OF HEALTH & HUMAN SERVICES, FOOD AND DRUG ADMINISTRATION, NATIONAL CENTER FOR TOXICOLOGICAL RESEARCH

Position: Staff Fellow / Visiting Scientist

Series: This position will be filled in an appropriate occupational series under Title 42 U.S.C. 209(g)

Location: Jefferson, AR

Opening Date: October 27, 2022

Closing Date: November 8, 2022

Salary Range: Salary is commensurate with education and experience.

Area of Consideration: All U.S. Citizens or eligible foreign nationals

Special Notes: This position will be filled as a Title 42 209 (g) appointment. This is an Excepted Service position under Title 42. This appointment does not confer any entitlement to a position in the competitive service and no entitlement to Merit Systems Protection Board (MSPB) appeal rights.

Introduction:
This position is located in the Division of Bioinformatics & Biostatistics, Office of Research, National Center for Toxicological Research (NCTR), U.S. Food and Drug Administration (FDA). The FDA is responsible for protecting the public health by assuring the safety, efficacy and security of human and veterinary drugs, biological products, medical devices, our nation's food supply, cosmetics, and products that emit radiation.

NCTR is a multi-disciplinary research center. NCTR's primary mission is to conduct peer-reviewed research and develop new scientific tools for the FDA to improve public health. This research produces new data and innovative tools to solve complex health issues and anticipated toxicological problems, thus enhancing FDA regulatory decision making. NCTR provides multidisciplinary training and fosters national and international collaborations with scientists from government, academia, and industry.

The Division of Bioinformatics and Biostatistics is responsible for research conducted in the broad multidisciplinary field of bioinformatics, which bears strong dependency on chemistry. Bioinformatics research encompasses analyzing complex data, discovering biomarkers and developing predictive models. The research program has ongoing projects in such areas as

developing models to predict biological activity and toxicity based on chemical structures, and developing models to predict biological activity and toxicity based on genomics, proteomics and metabolomics expression data.

Duties/Responsibilities:
NCTR is seeking a highly qualified scientist who has diverse range of expertise in machine learning and statistics simulations of big data.

Specific duties include, but are not limited to, the following:

- Deliver recommendations to enable development of reliable machine learning and deep learning methods that help commit FDA missions.
- Conduct algorithmic research to find solutions for application of artificial intelligent approached to improve FDA's regulation.
- Develop machine learning and deep learning tools using artificial intelligence efficient coding language Python.
- Develop knowledge base systems to facilitate scientific research and regulatory review.
- Work effectively in a multi-disciplinary team of regulatory scientists and research scientists to enhance FDA's regulation.
- Demonstrate analytical judgement to scope and assess the appropriate level of emerging machine learning methods such as deep learning.
- Proactively validate/correlate results with real world data to machine learning models.
- Present complex in-depth machine learning methods and detailed artificial intelligent algorithms in a concise manner.
- Advocate for the power of artificial intelligent systems while also communicating its limitations.
- Identify, test, benchmark, and recommend new machine learning methods such as new deep learning architectures.
- Present research in scientific journals and professional conferences.
- He/she will write research protocols and manuscripts for peer-reviewed publication, as well as maintain current awareness of new and emerging technologies / scientific break throughs.

- Prepares and reviews technical reports and scientific papers from within and outside NCTR.

Desired Qualifications:

- Candidates must have a doctoral-level degree from an accredited institution of higher learning, including: Ph.D. or equivalent degree. Some exceptions may be made depending on the candidate's qualifications.

NOTE: Our ideal candidate will possess experience Python and /or other programming languages, machine learning such as deep learning for genomic data and spatial-temporal data analysis. Experience with multi-disciplinary regulatory science and software development is preferred.

Conditions of Employment:

Ethics Requirements: This position is subject to strict prohibited financial interest regulations which could restrict the type of financial interest (stock holdings) for the employee, the spouse, and minor children of the employee. Selectee for this position will be required to file a Confidential Disclosure Report (OGE 450) and may require the selectee to obtain clearance from the FDA Division of Ethics and Integrity before a final offer can be made. For additional information on the prohibited financial interests, please visit the FDA Ethics and Integrity Office website at http://www.fda.gov/AboutFDA/WorkingatFDA/Ethics/default.htm.

Security and Background Requirements: If not previously completed a background security investigation will be required for all appointees. Appointment will be subject to the applicant's successful completion of a background security investigation and favorable adjudication. Failure to successfully meet these requirements may be grounds for appropriate personnel action. In addition, if hired, a background security investigation or supplemental investigation may be required at a later time. Applicants are also advised that all information concerning qualification is subject to investigation. False representation may be grounds for non-selection and/or appropriate disciplinary action.

Application Procedures: Candidates must submit a CV and brief statement of interest to:
Huixiao Hong, Ph.D.
Chief, Bioinformatics Branch
FDA/NCTR/DBB, Building 5C, Room 109A
3900 NCTR Rd., Jefferson, AR 72079
Email: Huixiao.Hong@fda.hhs.gov