

## **Post-Doctoral Research Fellow**

### **Computational Medicine Center – Lab of Dr. Rigoutsos**

**REQ-0015083**

#### Job Details

The position involves conducting research on short and long non-coding RNAs, utilizing analytical tools that integrate genomic, genetic, and transcriptomic datasets—both internally generated and publicly available. The emphasis is on elucidating the mechanisms underlying disease onset and progression, with a particular focus on the role of non-coding RNAs in these processes. The role may also involve developing novel analytical tools to support the research objectives.

#### Job Description

- This position involves conducting research in the field of non-coding RNAs using advanced analytical tools.
- The primary focus will be on elucidating the mechanisms underlying the onset and progression of disease, with an emphasis on the involvement of non-coding RNAs in these processes.
- Typical activities include data analysis, integration of data across multiple modalities, and software tool development and testing.

#### Competencies (Knowledge, Skills, and Abilities Required)

- The candidate must have the requisite graduate-level knowledge base to effectively perform assigned and independent activities, including:
- Assist the PI in designing, implementing, and conducting analyses as required by the above-stated goals.
- Analyze data and report on research findings.
- Assist the PI in preparing novel research findings for publication in appropriate scientific journals and/or presentation to the scientific community at relevant scientific meetings.
- Demonstrate commitment to Jefferson's core values of excellence and innovation, integrity and respect, teamwork, and communication.

- Know policies and procedures applicable to assigned duties.
- Use sound judgment and be aware of potential hazards before taking action.
- Promptly report errors/events or situations of actual or potential harm.

#### Education

- Postdoctoral trainees must have completed the requirements, as of the beginning date of the appointment, a Ph.D. in Biochemistry, Molecular Biology, Biomedical Engineering, Bioinformatics, Computational Biology, Computer Science, Electrical Engineering, or a related field.

#### Experience

- The ideal candidate should have familiarity with one or more of computer science, machine learning, bioinformatics, and computational biology, and to understand how these disciplines are applied to real-world problems from biology and medicine.
- Working knowledge of technical computing and software packages such as R, MATLAB, or similar tools for data analysis and visualization is expected.
- Experience in the field of non-coding RNAs, RNA interference, or related topics is strongly desired.
- A strong publication record is preferred.

#### Additional Information

The Rigoutsos lab is a highly dynamic and collaborative environment, as is the Computational Medicine Center at Thomas Jefferson University. The lab is at the cutting edge of biomedical research and pursues “data-driven basic science.” Central to the lab’s activities is the combination of experimental work (wet bench) with computational analyses of Big Data.

Research work in the Rigoutsos lab over the last 20 years has focused on short regulatory RNA molecules. The lab specifically studies three types of molecules in health and disease: the isoforms of microRNAs (miRNAs) that are known as isomiRs; the fragments of transfer RNAs (tRNAs) that are known as tRFs; and the fragments of ribosomal RNAs (rRNAs) that are known as rRFs.

The Rigoutsos lab is one of the leaders in this field, and their work to date has led to several pioneering discoveries. The lab’s work frequently appears in high-impact factor journals, including *Science*, *Nature*, *Nature Biotechnology*, *Nature Methods*, *Cell*, *Cancer Cell*,

*Proceedings of the National Academy of Sciences (PNAS), Nucleic Acids Research, Genome Biology, Genome Research, and Cancer Research.*

The lab seeks motivated Postdoctoral Fellows to join and embark on an exciting journey to study these molecules and work towards unravelling their roles in the mechanistic events that underlie health and disease. The studies require advanced knowledge of genomic, biochemical, cell, and molecular biology approaches, and modern computational techniques and analytical tools.

You can apply to the job by going to our Careers page at;

<https://jeffersonhealth.wd5.myworkdayjobs.com/en-US/ThomasJeffersonExternal>

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