Several immediate postdoc and PhD positions available in the OPIRA laboratory in the University of Illinois Chicago (UIC).

Interested candidates are invited to email their detailed CV to Dr. Avanaki at avanaki@uic.edu. More details about the projects will be discussed during the interview. The candidates are strongly encouraged to study the research topics in OPIRA lab website at https://www.opira-avanaki.com/research.

1. Postdoc position in Photoacoustic Imaging Instrumentation. The postdoctoral fellow will contribute to the design, development and optimization of a photoacoustic tomography system for brain imaging. Some of responsibilities include conducting phantom and animal imaging experiments, data analysis. This project is hosted by the Biomedical Engineering Department at UIC, collaborating with UIC Medical School, Biomedical Engineering Department at the University of Michigan and Harvard Medical School. Requirements for this position include: (a) a PhD in Electrical Engineering, Biomedical Engineering, Physics, or Biomedical Physics; (b) a strong background in design and development of imaging system instrumentation, especially optical and ultrasound imaging; (c) strong Matlab (required) and Labview programming (required); (d) ability to work independently and in a multi-disciplinary team environment; (e) experience with optical system design, machine learning and GPU programing are plus. The successful candidate will be expected to publish significant research findings and must have excellent verbal and written English communication skills. The candidate will be asked/trained in grant writing.

2. Postdoc position in image analysis, pattern recognition and machine learning. The postdoctoral fellow will contribute to the development of image analysis, pattern recognition and machine learning-based algorithms for analysis of optical coherence tomography (OCT) images of melanoma skin. The aim is to assist diagnosis of skin cancer without biopsy. More details about the projects will be discussed during the interview. This project is hosted by Biomedical Engineering and Bioinformatics Departments at UIC, collaborating with UIC Medical School, and Michelson Diagnostics Co. Requirements for this project include: (a) a PhD in Computer science, Biomedical Engineering, or Electrical Engineering; (b) must have experience with image analysis, pattern recognition and machine learning algorithm development; (c) strong Matlab (required), Python (required), C/C++ programming; (d) ability to work independently and in a multi-disciplinary team environment; (e) experience with optical imaging instruments is a plus. The successful candidate will be expected to publish significant research findings and must have excellent verbal and written English communication skills. The candidate will be asked/trained in grant writing.

3. PhD position in optical imaging instrumentation. The applicant is responsible to build a multimodality system (optical coherence tomography and photoacoustic microscopy) for skin imaging application. Students with a strong instrumentation background are highly

encouraged to apply. Having prior experience with optical imaging instrumentation is necessary. Proficiency in Labview and Matlab is necessary.

4. PhD position in image analysis and machine learning. The applicant is responsible to enhance the OCT images of skin. He/she will develop machine learning-based image enhancement algorithms, as well as algorithms for segmentation and classification of OCT images. Students with a strong image processing background are highly encouraged to apply. Prior experience with machine learning is necessary. Understanding the features of optical coherence tomography images is necessary. Proficiency in Matlab and Python is necessary. GPU programming is a plus.