A position is available, either as a Postdoctoral Fellow or a Research Associate, for the development and application of machine learning approaches and image analysis in the field of confocal microscopy, microscopy (dermoscopy), digital whole body photography and multimodal optical imaging for noninvasive screening and diagnosis of cancer. Depending on qualifications and level of experience, candidates will be considered for either the postdoctoral fellow or the research associate position.

Confocal microscopy and imaging at the cellular level in vivo continues to advance at an exciting pace, in technology development, commercialization and translation into clinical applications for screening and diagnosis of skin and other cancers. While tremendous progress has been made in visual analysis and correlation of images to pathology (demonstrating high sensitivity and specificity for skin cancer detection), further and major advances will require a serious long-term effort in image analysis, towards a deeper understanding of images vis-à-vis pathology. Dermoscopy and digital whole body photography are routinely used for screening and guiding biopsy and management of skin cancer. Other developing modalities for cancer detection include optical coherence tomography, multiphoton microscopy and multimodal imaging.

All of this opens up an entirely new “field of dreams” for a career in “image understanding,” which will involve the innovative development and application of machine learning-based image analysis, mathematical models and classification algorithms for optical imaging technologies and clinical translation into computer-aided tools for cancer diagnostics.

We are establishing an image analysis group in Dermatology, in collaboration with our Pathology department at MSKCC and with a machine-learning and image analysis group at Northeastern University. The postdoctoral fellow or research scholar will have the opportunity to lead the group and build an independent long-term career in this new field. This will be a highly collaborative position, and the fellow or associate will be expected to work closely with clinicians at MSKCC and other medical centers and with the Northeastern University group.

Requirements: A Ph.D. in electrical/computer engineering or computer science or biomedical engineering, with a background in machine learning, image analysis and/or biomedical imaging. Programming skills in MATLAB and/or C, C++, etc. This is an exciting opportunity for fresh graduates or those with 1-5 years’ experience, with an outstanding academic record and highly motivated to build an independent career in academia.

Contact: Candidates should send a detailed CV and a cover letter describing training and research experience and career aspirations, addressed to Dr. Milind Rajadhyaksha. Please send by email to rajadhym@mskcc.org.