Overview: The Photoacoustic & Ultrasonic Systems Engineering (PULSE) Lab at Johns Hopkins University, directed by Dr. Muyinatu Bell, is seeking a postdoctoral fellow to join our lab and work on cutting-edge projects that apply state-of-the-art photoacoustic imaging techniques to guide surgeries. The PULSE Lab is known for its pioneering research in the broad area of medical imaging technology, specifically ultrasound and photoacoustic imaging, photoacoustic-guided surgery, robot-assisted imaging, machine learning for image formation, and other cutting-edge techniques created to significantly advance healthcare interventions and diagnosis. Visit https://pulselab.jhu.edu/ for more details.

Project Description: Hysterectomies are commonly performed to address gynecological issues experienced by approximately ⅓ of women over the age of 60. This surgery is challenged by accidental risk of injury to critical structures that need to be preserved, such as the ureter. We are developing photoacoustic technology to address this challenge. The successful postdoctoral candidate will assist with technology designs for laparoscopic, robotic, and non-robotic surgeries. This project will be completed in collaboration with physicians at the Johns Hopkins Hospital, enabling access to a strong cohort of patients who are prime candidates to participate in our final-stage testing of the new technology. Opportunities to engage in additional projects of mutual interest and relevance to the broader research mission of the PULSE Lab will also be available.

Required Background, Skills, & Qualifications: PhD degree in biomedical engineering, electrical engineering, mechanical engineering, computer science, physics, or a related field; programming experience in MATLAB; familiarity with photoacoustic imaging, Monte Carlo simulations, hands-on experimental procedures, pre-clinical studies, and/or patient-focused research; verbal and written communication skills; desire and motivation to make an impact.

Funding: This position is funded by NIH Grant No. R01-EB032358 and is available immediately for a term of one year, with an option to renew depending on progress and performance.

To Apply: Email your CV, research interests, and links to two representative papers to mledijubell@jhu.edu & cc: pulselab@jhu.edu. Place the text “PULSE Lab Postdoc Candidate (Hysterectomy Project)” in the subject line of your email.