

Automated Tissue Scanning



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Problem Statement

- Intraoperative tissue classification is slow and difficult
 - Human-performed biopsy (20+ minutes)
 - Surgeon makes final decisions
- Tissue classification could allow faster, more accurate resections
 - Better treatment of cancer or other procedures
 - Faster recovery time, lower cost

Our Proposal

- Develop a robotic surgery system capable of classifying tissue in near real-time
 - Use Raman spectroscopy
 - Automate the process of sample collection
 - Interface with current image-guided surgery systems
 - Develop novel interfaces for configuring scans and presenting results to the surgeon

