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**Photoacoustic detection of metastatic melanoma in lymph nodes**
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The project’s objective is to detect metastatic melanoma cells in lymph node cross sections using a pulsed laser to generate the photoacoustic effect. When melanoma metastasizes it uses the blood stream or the lymphatic system to travel through the body. At the moment, there is a minor invasive surgical procedure, called sentinel node biopsy, where they remove the sentinel lymph node to see if a case of diagnosed melanoma has become metastatic. Then the lymph node is sliced into hundreds of cross sections and a few are checked with the microscopes for metastatic melanoma often resulting in overlooked cross sections with metastatic melanoma and therefore, misdiagnosis. However, our project hopes to streamline this process of scanning lymph node cross sections, making it more accurate and efficient in diagnosis.