Washington University in St. Louis
Office of Technology Management

HANDS-FREE, WIRELESS GOGGLES FOR NEAR-INFRARED FLUORESCENCE AND REAL-TIME IMAGE-GUIDED SURGERY

Achilefu, Samuel, Akers, Walter, Bauer, Adam, Culver, Joseph, Liu, Yang

Markiewicz, Gregory

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Background: Current cancer management faces several challenges, including high occurrence of residual tumor after resection, adverse effects from sentinel lymph node (SLN) biopsy, and use of bulky systems in surgical suites for image guidance.

Technology Description: To overcome these limitations, investigators from Washington University have developed hands-free, wireless goggles for real-time intraoperative imaging that, when combined with near infrared (NIR) fluorescent molecular probes, can aid identification of tumor margins, guide surgical resections, map SLNs, and transfer acquired data wirelessly for remote analysis. Unlike other imaging instruments, it is a goggle-based device that does not require remote monitoring. The system is equipped with the capability to transfer wirelessly real-time video to a remote site, where the current view for the goggle wearer can be graphically displayed. Hence, the new system can be potentially applied to point-of-care medical interventions, real-time pathological assessments, and remote medical consulting.