

Abstract Submitted  
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**Concurrent MultiPhoton microscopy and Magnetic Resonance Imaging (COMPMRI)**<sup>1</sup> REBECCA DITUSA, Cornell University — Functional/Magnetic Resonance Imaging (f/MRI) systems have aided in medical research through the use of large field-of-view (FOV) imaging. However, high resolution, small FOV imaging would enhance the ability to analyze systems on a smaller, cellular scale. Two-photon microscopy has been used for deep-image small FOVs without a surgical procedure but simultaneously achieving an MRI scan is difficult. Although scanning separately is achievable, it lacks the ability to definitively correlate events between scans due to the difference in time. In order to image a small and large FOV concurrently, a microscope constructed out of MRI-safe material is needed. To achieve this parameter, piezoelectric materials are used. They are MRI compatible and by using multiple orientations, motion in more than one dimension is possible.

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