

Abstract Submitted
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Color centers in diamond: versatile and powerful tools for bioimaging HUILIANG ZHANG, DAVID GLENN, ALEXEI TRIFONOV, MY LINH PHAM, DAVID LE SAGE, NARAYANAN KASTHURI, RICHARD SCHALEK, JEFF LICHTMAN, RONALD L. WALSWORTH, Harvard University, WALSWORTH GROUP COLLABORATION, LICHTMAN LAB COLLABORATION — We present recent progress in the application of nitrogen vacancy (NV) and other color centers in diamond to demanding bioimaging applications, including: (i) nanodiamond cathodoluminescence (CL) to provide molecular-function correlated color to electron microscopy of the connections between neurons (“Connectomics”); (ii) super-resolution optical imaging of functionalized nanodiamonds in brain tissue using variants of STED, GSD or STORM techniques; and (iii) magnetic field sensing and imaging of neural activities using an NV- diamond magnetometer.

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