

## ADDITIONAL INFORMATION

We provided a live demonstration website for the 3D liver fibrosis analysis with results viewed in a 3D virtual tissue space: <https://dplab.gsu.edu/demo>. This live demonstration does not require any login credential.

In addition to the presentations of the key aspects of DPLab web application in this manuscript, we provide supplementary videos for in-depth DPLab platform demonstrations by the following link: <https://jkonglab.github.io/DigitalPathology/>. On this webpage, we present the following videos for demonstration.

1. Movie S1: User Account Creation. This video demonstrates how to create an account on the DPLab web application that prevents automated malicious threats for enhanced data security.
2. Movie S2: Project Management. This video demonstrates how to create projects and set properties of projects for different research investigations.
3. Movie S3: Image Management. This video demonstrates how to upload, combine, and search images in projects.
4. Movie S4: Image Annotations. This video demonstrates how to use annotation tools for annotations on DPLab web platform.
5. Movie S5: Annotation Files. This video demonstrates the resulting annotation Jason and ImageScope compatible xml files from DPLab web platform.
6. Movie S6: WSI Registration Analysis. This video demonstrates how to invoke image registration analysis to spatially align serial WSIs and enable 3D tissue investigations.
7. Movie S7: 3D Tissue Volume Visualization. This video demonstrates the 3D visualization tools for pathology WSI volume inspection.
8. Movie S8: Algorithm Invocation. This video demonstrates the general procedure to invoke and submit analysis jobs.
9. Movie S9: Algorithm Deployment. This video demonstrates how to integrate and manage new algorithms to expand the analysis library on DPLab web platform.
10. Movie S10: Analysis Result Visualization, Refinement, and Export. This video provides a demonstration on result review, refinement, and export.
11. Movie S11: Administrator Account. This video demonstrates how to manage user accounts with an administrator account.