Industry Insights: One active area of biomedical research is digitally processing histology images and data. This data can be large and awkward to work with, comprising whole slide images that are tens of gigapixels in size and may have dozens of separate channels. Large research projects often need to handle thousands of images, each annotated with spatial data and accompanied by other data modalities such as spatial transcriptomics. Kitware’s Data and Analytics department has an open source data platform, HistomicsTK, which is used to visualize and process this data at scales ranging from small academic research projects to large pharmaceutical research. Some background on the problem space will be presented, and details on how this platform’s tools are developed to turn one-project research code into stable reusable code, and how that can then be turned into something used in production at scale. Some of the underlying engineering that goes into the visualizations and scaling of the underlying software libraries will be covered.

About the Speaker: Mr. Manthey is a Technical Leader in the Data and Analytics team at Kitware, Inc. He leads development on the HistomicsTK platform and contributes to a variety of open source libraries that are used for processing large multi-scale and multi-modal data. He has been working with large multi-resolution images his entire professional career, and is an expert at file formats and efficient access of such images. He holds a BS in Mechanical Engineering from Rensselaer Polytechnic Institute. Prior to his more than 9 years at Kitware, he worked on computer vision software for the automotive industry, and also in audio and video distribution, storage, and processing. He has co-authored over 20 peer-reviewed papers and has one patent.