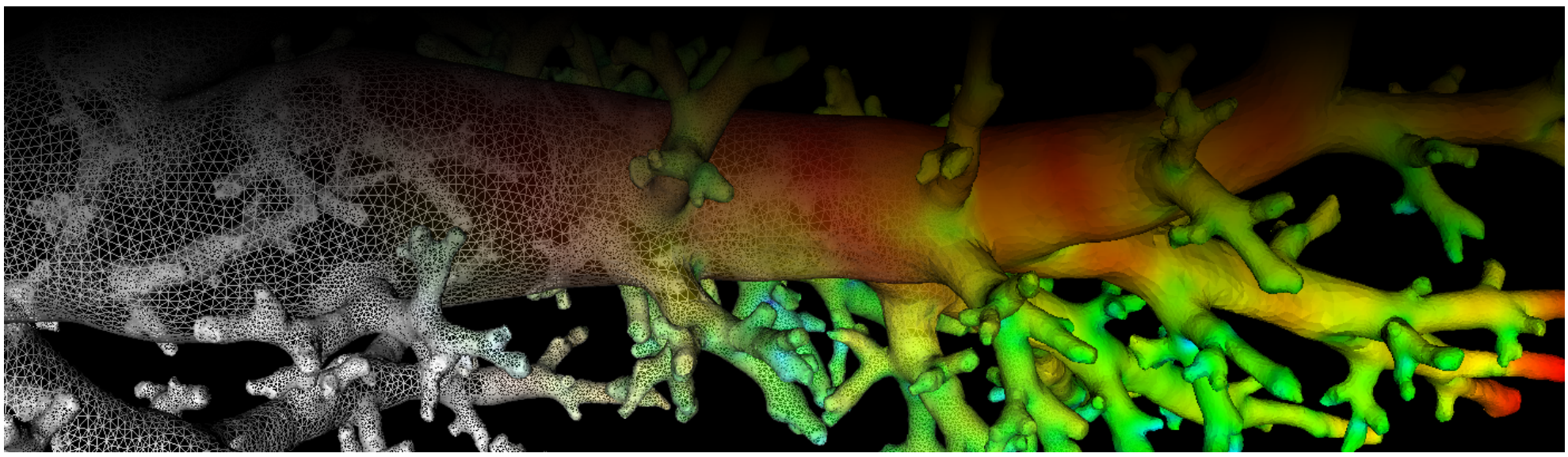
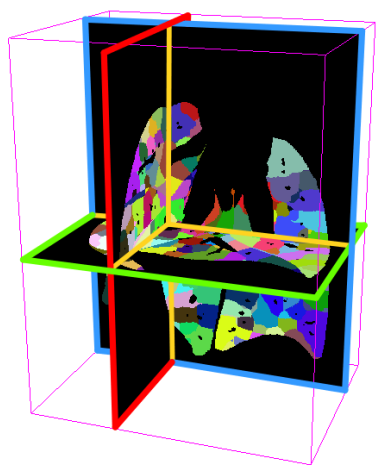
Lung Anatomy + Particle Deposition (lapd) Mouse Archive

for Modeling and Computational Toxicology



Labelmap *_NearAcini.nrrd



Near acini compartments labelmap.

Acini are regions of the lung supplied with air from one of the terminal bronchioles. Their boundaries can be vaguely identified in the aersol deposition images *_AerosolNormalized*.mha. We partition the lung tissue into disjoint compartments roughly resembling acini structures based on aersol deposition in *_AerosolNormalized*.mha. Each compartment is assigned a unique label and their regions stored in labelmap ***_NearAcini.nrrd**.

The size and resolution of labelmap ***_NearAcini.nrrd** is identical to *_AerosolNormalizedSub2.mha. Aerosol deposition measurements for each sublobe are available in *_NearAciniDeposition.csv.

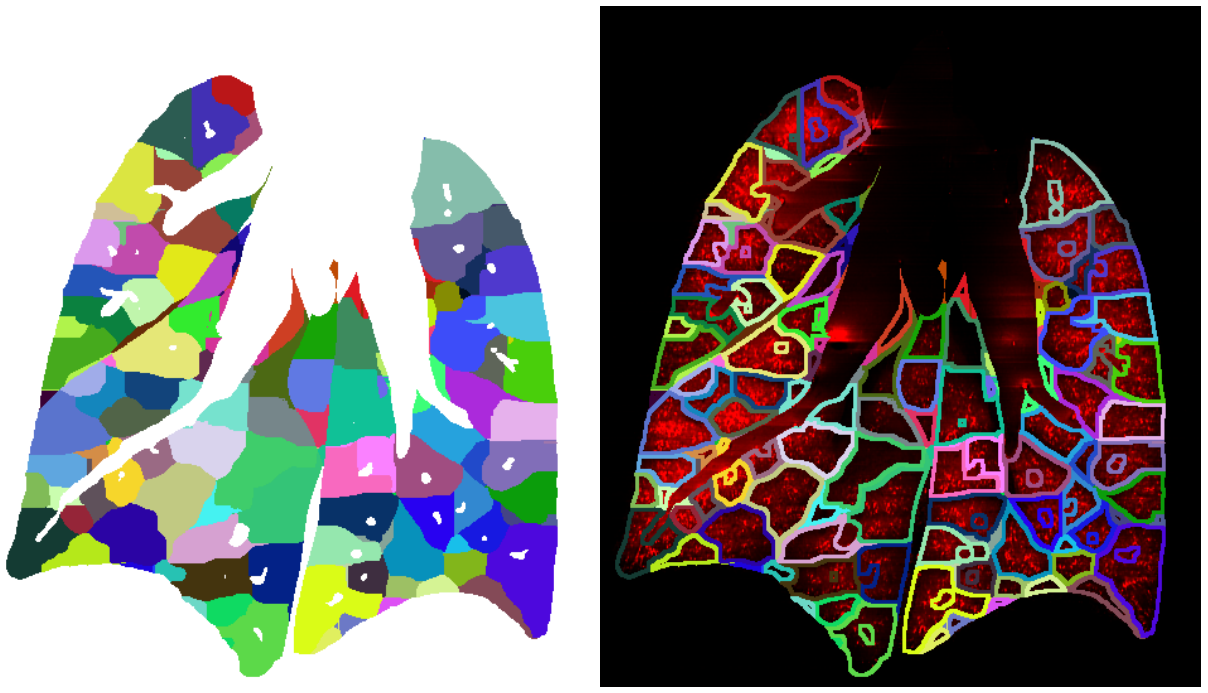


Fig. 1: Coronal image slice of near acini labelmap volume and overlay of its ouline in *_AerosolNormalized*.mha.

Code Example

This examples shows how to read and write a volumetric labelmap such as ***_NearAcini.nrrd** using C++ and ITK.

readWriteLabelmap.cpp hosted with ♥ by GitHub view raw

```
/*
Example how to read and write labelmaps used in lapdMouse project using ITK.

```bash
./readWriteLabelmap m01_NearAcini.nrrd out.nrrd
```
*/

// ITK includes
#include <itkImage.h>
#include <itkImageFileReader.h>
#include <itkImageFileWriter.h>

int main(int argc, char**argv)
{
  if (argc!=3)
  {
    std::cerr << "Usage: " << argv[0] << " input output" << std::endl;
    return -1;
  }

  // typedef for volumetric labelmaps used in lapdMouse project
  typedef itk::Image< unsigned short, 3 > LabelmapType;
```

Related Data Structures

*_NearAciniDeposition.csv | *_AerosolNormalized*.mha

Related Code Examples

readWriteLabelmap.cpp | imageLabelStatistics.cpp

Updated: 7/24/19
2018 r2b