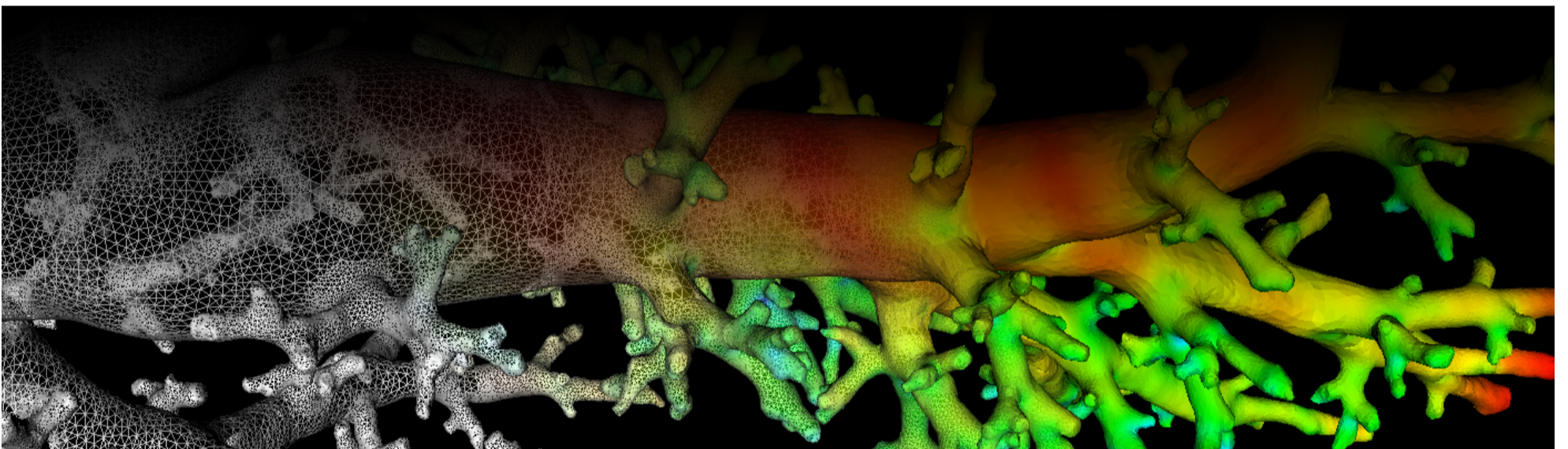


# Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology

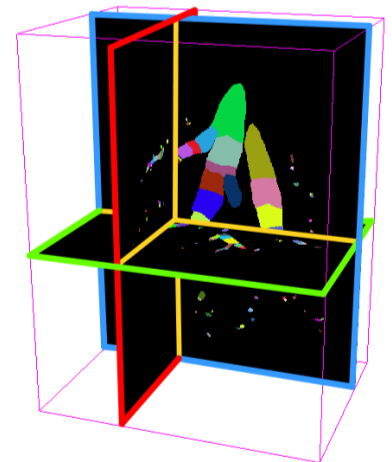


## Labelmap \*\_AirwaySegments.nrrd

Airway segments labelmap.

The airway tree segmentation is split into airway segments. Labels in \*\_AirwaySegments.nrrd represent the region assigned to each of these segments.

The assigned label for each segment also corresponds to the IDs utilized to identify airway segments in files [\\*\\_AirwayTree.meta](#), [\\*\\_AirwayTreeTable.csv](#), and [\\*\\_AirwaySegments.vtk](#). See [Airway Tree Label Correspondence](#) for more information.



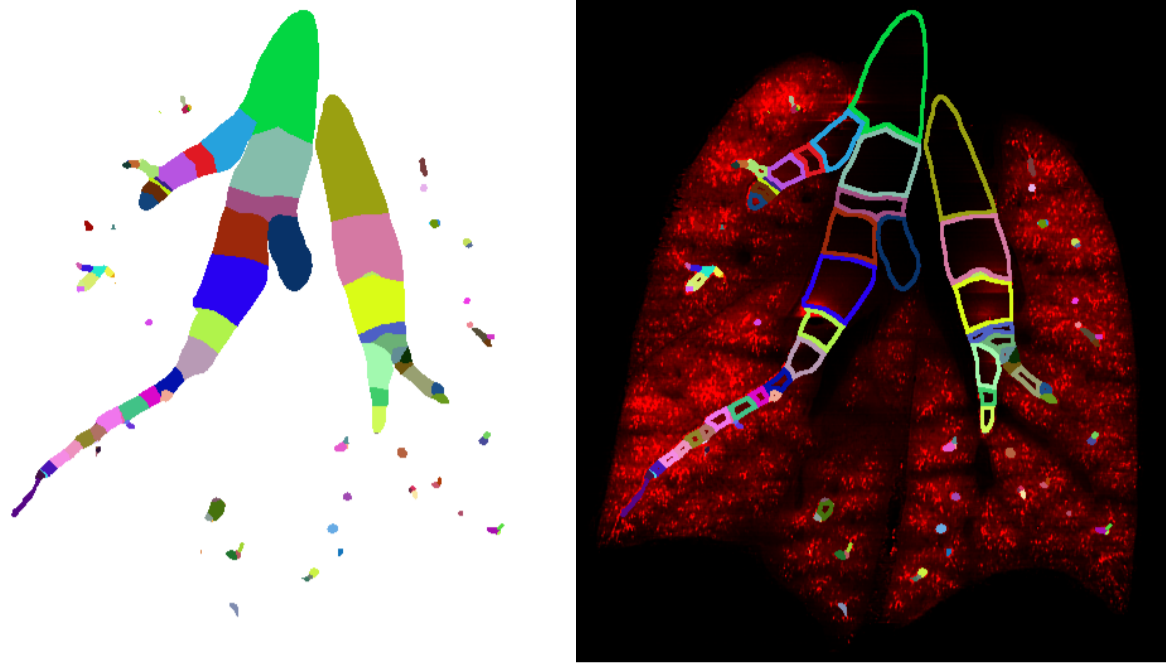


Fig. 1: Coronal image slice of airway segments labelmap volume and overlay of its outline in [\\*\\_AerosolDeconv\\*.mha](#).

## Code Example

This examples shows how to read and write a volumetric labelmap such as `*_AirwaySegments.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

[\\*\\_AirwaySegments.vtk](#) | [\\*\\_AirwayTree.meta](#) | [\\*\\_AirwayTreeTable.csv](#)

## Related Code Examples

[readWriteLabelmap.cpp](#) | [imageLabelStatistics.cpp](#)