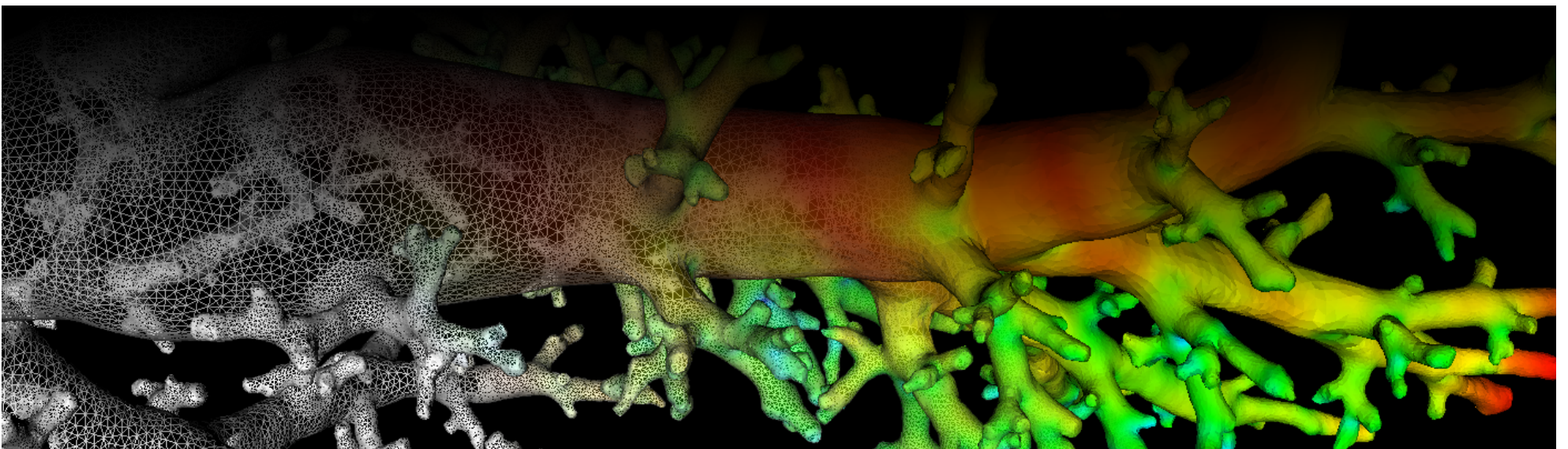


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology

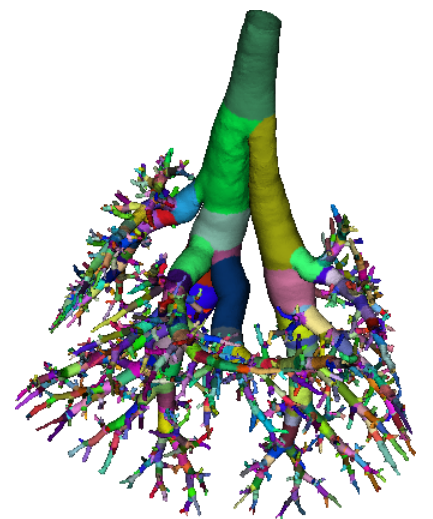


Mesh *_AirwaySegments.vtk

Airway segments mesh.

The airway tree segmentation is split into airway segments. Labels in *_AirwaySegments.vtk represent the region of the airway wall assigned to each of these segments and are stored as scalar values assigned to the mesh's vertices.

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.



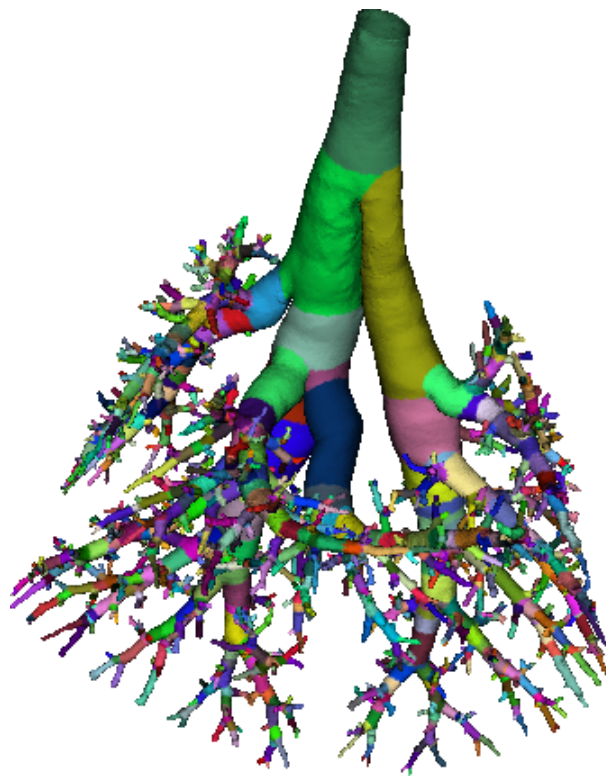


Fig. 1: Airway segments mesh `*_AirwaySegments.vtk`. Each color represents a different label. The compartments have labels corresponding to the ID of the airway segment.

Aerosol deposition measurements for each of the airway wall's segments are available in [*_AirwaySegmentsDeposition.csv](#). Geometrically and topologically `*_AirwaySegments.vtk` is identical to [*_AirwayWallDeposition.vtk](#) and [*_AirwayOutlets.vtk](#).

Code Example

This examples shows how to read and write a mesh such as `*_AirwaySegments.vtk` using C++ and ITK.

`readWriteMesh.cpp` hosted with ❤ by [GitHub](#)

[view raw](#)

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

```bash
./readWriteMesh m01_AirwayOutlets.vtk out.vtk
```
*/

// ITK includes
#include <itkMesh.h>
#include <itkMeshFileReader.h>
#include <itkMeshFileWriter.h>

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

    // typedef for meshes used in lapdMouse project
    typedef itk::Mesh< float, 3 > MeshType;
```

Related Data Structures

[*_AirwaySegments.nrrd](#) | [*_AirwaySegmentsDeposition.csv](#) | [*_AirwayTree.meta](#) | [*_AirwayTreeTable.csv](#)

Related Code Examples

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