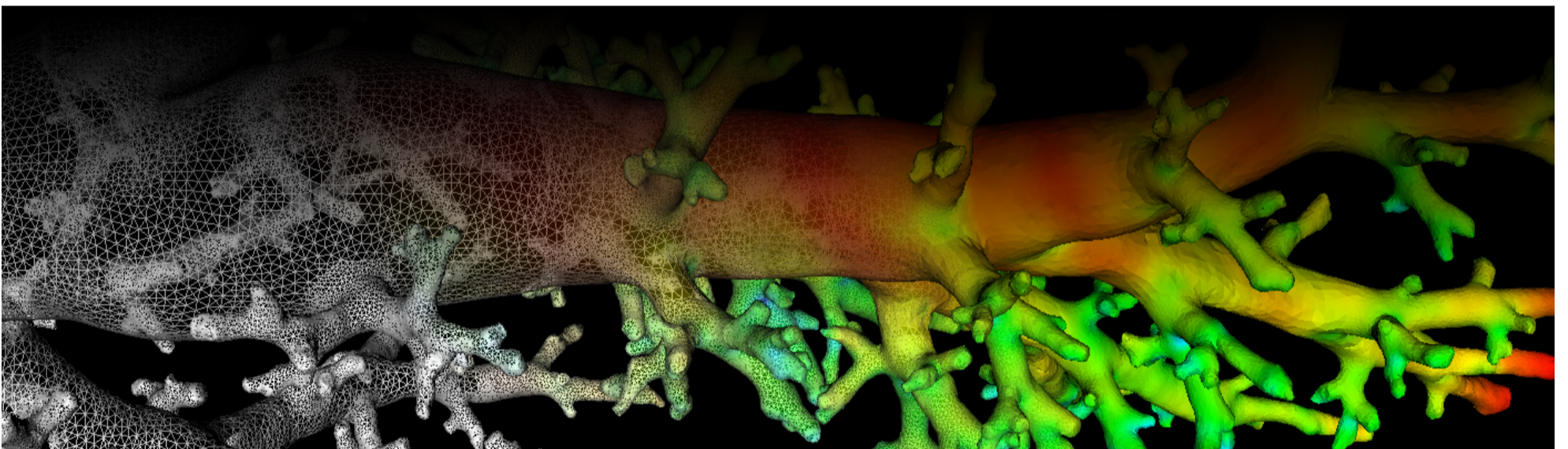


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology

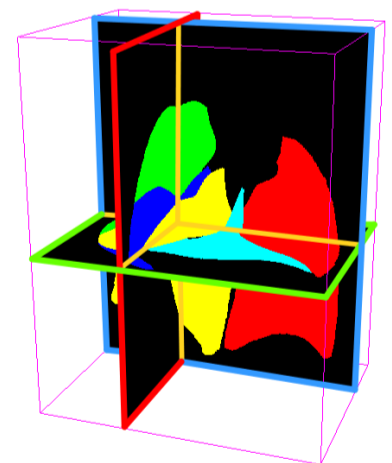


Labelmap *_Lobes.nrrd

Lung lobe labelmap.

The lung tissue is subdivided into lobes. Their regions are stored in the volumetric labelmap *_Lobes.nrrd using following labels (see [Fig.2](#)):

- label 0: background
- label 1: left lobe
- label 2: cranial lobe
- label 3: middle lobe
- label 4: caudal lobe
- label 5: accessory lobe



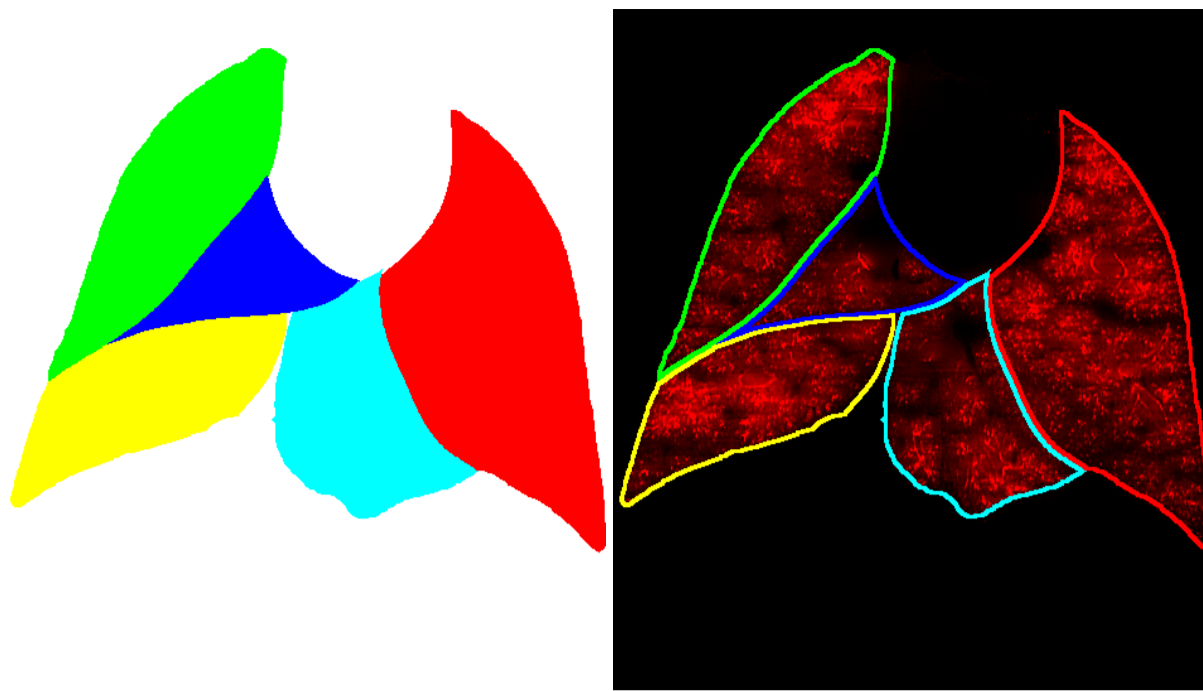


Fig. 1: Coronal image slice of lobe labelmap volume and overlay of its outline in [*_AerosolDeconv*.mha](#).

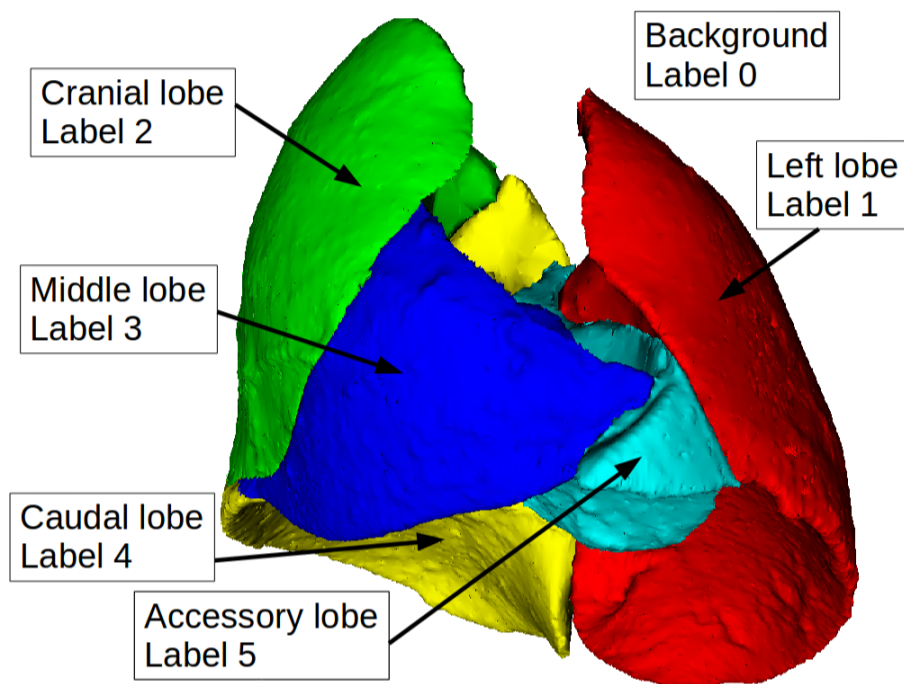


Fig. 2: Labeling schema for lung lobes.

The size and resolution of labelmap `*_Lobes.nrrd` is identical to [*_AerosolDeconvSub2.mha](#). Aerosol deposition measurements for each lobe are available in [*_LobesDeposition.csv](#).

Code Example

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

[* LobesDeposition.csv](#) | [* AerosolDeconv*.mha](#)

Related Code Examples

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

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