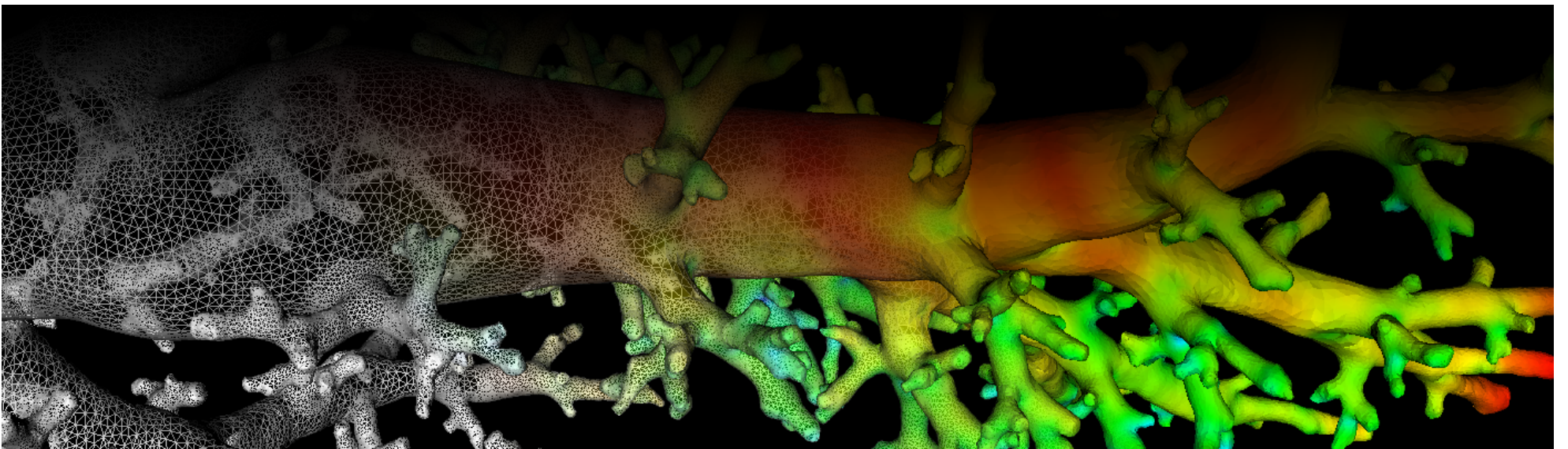
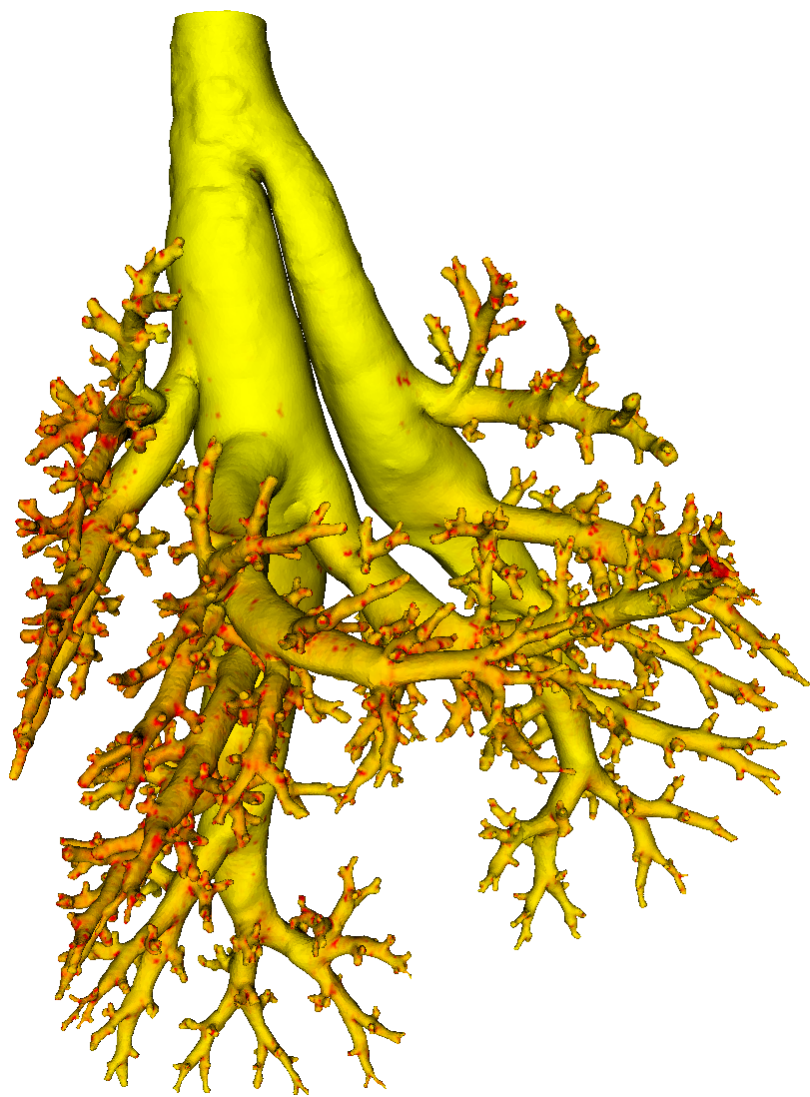


# Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m08

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## Mouse Physiologic Parameters

- Sex: Female
- Strain: C57BL/6
- Weight (g): 23.0
- Vendor: Jackson Labs
- Physical abnormalities: none
- Protocol (<https://cebs-ext.niehs.nih.gov/cahs/file/lapd/pages/Core/Animal%20Model.pdf>)

## Aerosol Dosing

- Particle size: 1 micron
- Exposure time: 10 minutes
- Exposure estimate: unknown

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	240	0.30	71.3	0.81
Post 5 Aerosol	210	0.24	50.0	0.66
Post 10 Aerosol	180	0.27	48.3	0.61

## Slicing Info

- Approximate lung orientation: LAS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.64 x 4.64 x 9.52 (microns)
- Image exposures (msec). ISO=160, all images.

	mt	ol	fl	rd	Notes
excitation	UVND2	UVND2	485/20	560/20	center wavelength/fwhm
emission	N/A	470/30	535/30	635/30	(nm)

	mt	ol	fl	rd	Notes
Image	Exp	Exp	Exp	Exp	Notes
white	25	125	6000	167	1 drop rhodamine B/10mL OCT
cal	20	50	40	200	
images	N/A	50	15000	333	
darks		50	15000	333	

- Notes regarding slicing:
  - Small amount of OCT leakage at the trachea just superior to the carina.
  - Lots of shards early in the slicing.
  - Good aerosol signal throughout.
  - Tip of the left lung fell out around slice 1868.
  - Ran without stopping.

## Airway Segmentation

- Total centerline length: 597.903 mm
- Number of branches: 1718
- Number of terminal branches: 861
- Maximum generation number: 25
- Number of outlet areas: 1995

## Compartment Sizes and Aerosol Deposition

- Lung volume: 1055.43 (mm<sup>3</sup>)

Compartments	Count	Volume (mm <sup>3</sup> )
Lung	1	1055.43
Lobes	5	211.09±93.96
Sublobes	55	18.38±19.37
Near acini	378	2.58±1.26

Lobe	Volume (mm <sup>3</sup> )	Average aerosol deposition
left	340.92	0.97±0.84
cranial	158.80	1.50±1.15
middle	131.24	1.64±1.12
caudal	307.57	1.16±0.97
accessory	116.90	1.13±0.97

## Additional Notes

- Overall quality: A
- Airway surface wall for bifurcation leading into accessory lobe is not modeled well.