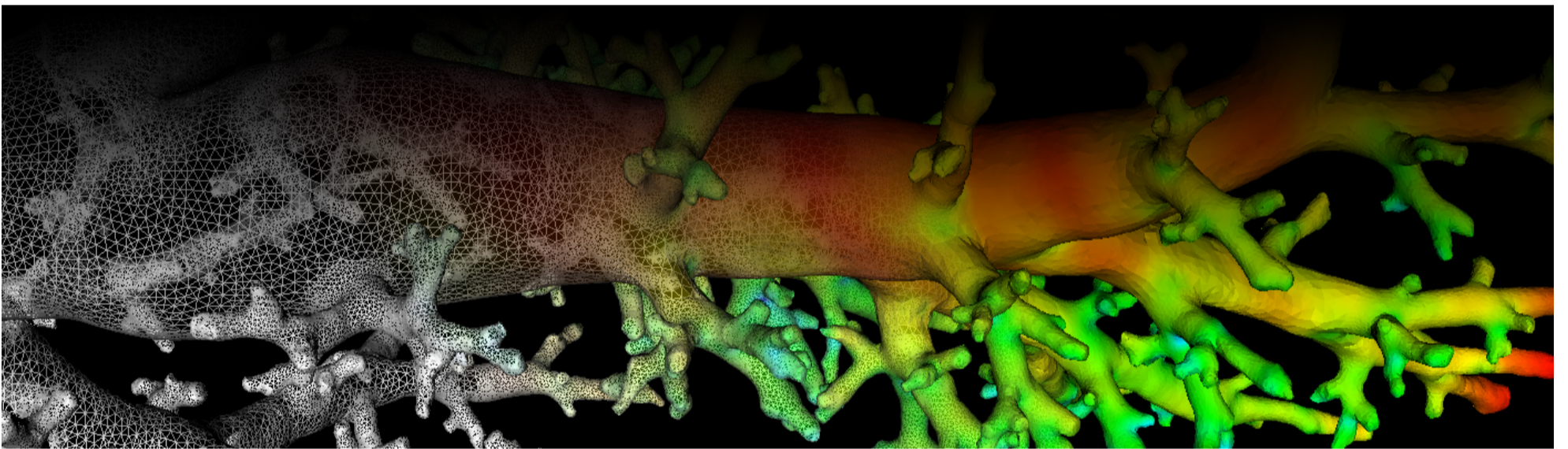
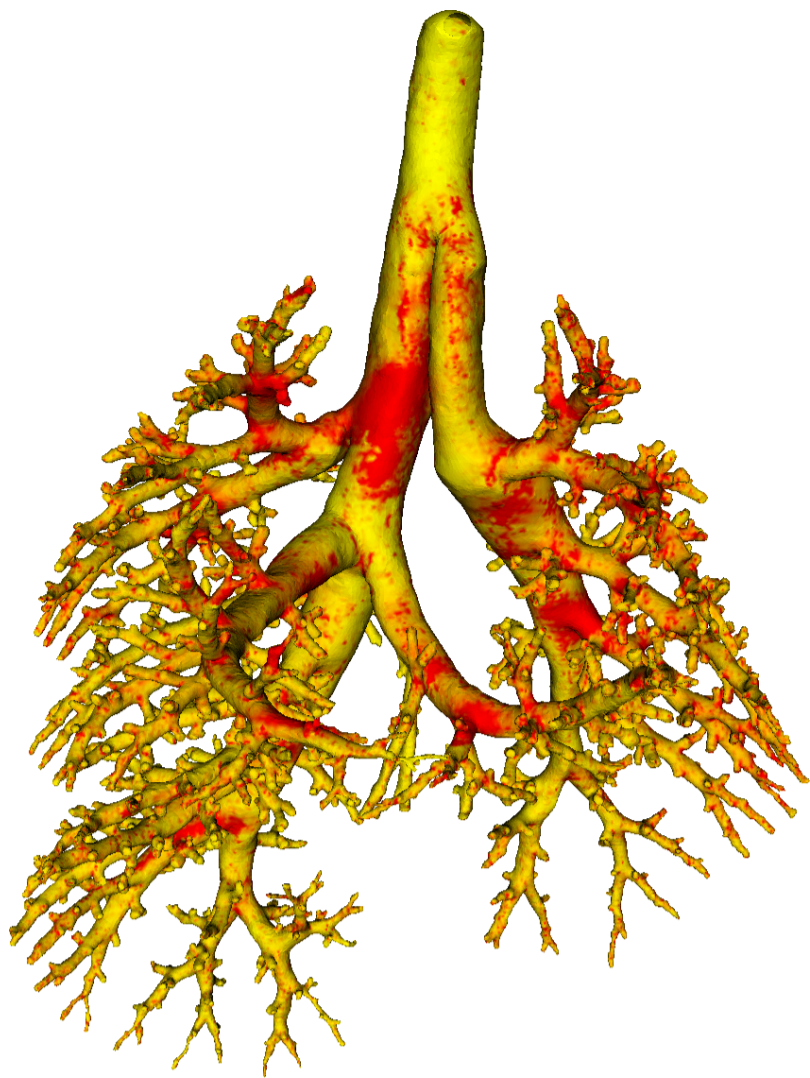


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m27

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Male
- Strain: BALB/c
- Weight (g): 24.4
- 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: 2 microns
- Exposure time: 15 minutes
- Exposure estimate: 2.01E+07 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	278	0.37	103.3	0.89
Post 7.5min Aerosol	239	0.28	66.6	0.86
Post 15min Aerosol	223	0.28	62.4	0.84

Slicing Info

- Approximate lung orientation: LAS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.70 x 4.70 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	
Image	Exp	Exp	Exp	Exp	Notes

	mt	ol	fl	rd	Notes
white	33	167	5000	167	Rhodamine B in OCT
cal	20	125	67	400	
images		77	20000	2000	
darks		77	20000	2000	

- Notes regarding slicing:
 - Top part of trachea is oblong before it rounds out.
 - A small piece of tissue detached from the main sample around slices 1450-1650.
 - Very high aerosol signal.
 - Sub-optimal sample because of the blow-out.

Airway Segmentation

- Total centerline length: 598.31 mm
- Number of branches: 1584
- Number of terminal branches: 793
- Maximum generation number: 26
- Number of outlet areas: 2152

Compartment Sizes and Aerosol Deposition

- Lung volume: 1123.09 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1123.09
Lobes	5	224.62±111.51
Sublobes	58	18.97±20.58
Near acini	334	3.20±2.29

Lobe	Volume (mm ³)	Average aerosol deposition
left	404.70	1.28±6.72
cranial	191.25	1.44±9.96
middle	146.86	1.05±7.71
caudal	290.64	0.78±6.21
accessory	89.64	1.00±6.37

Additional Notes

- Overall quality: A
- Top of trachea is too narrow