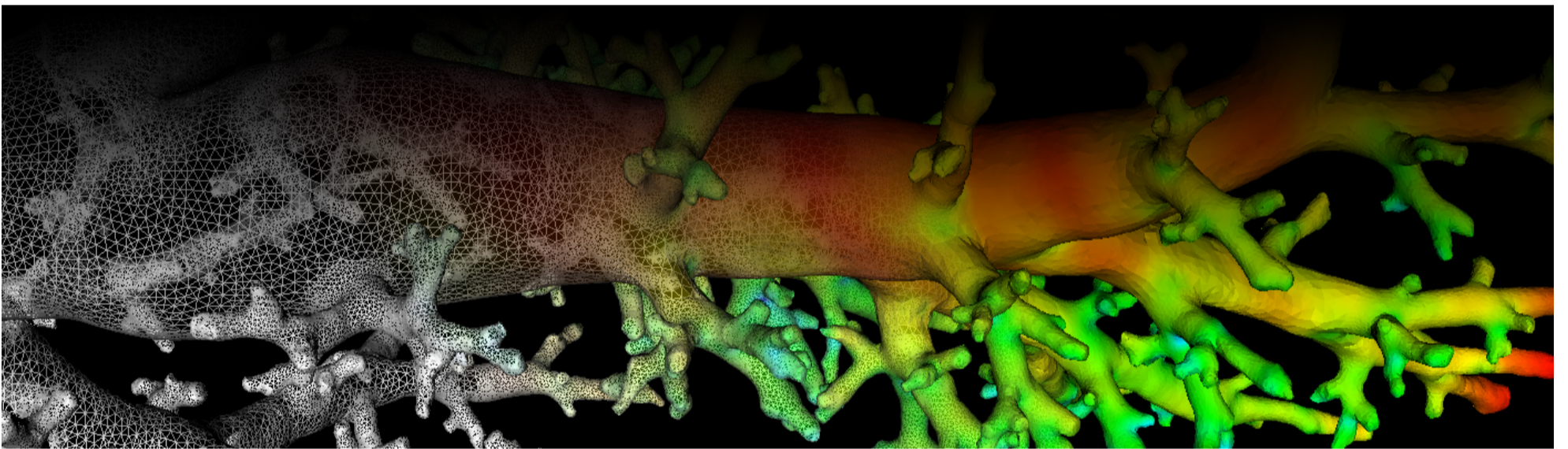
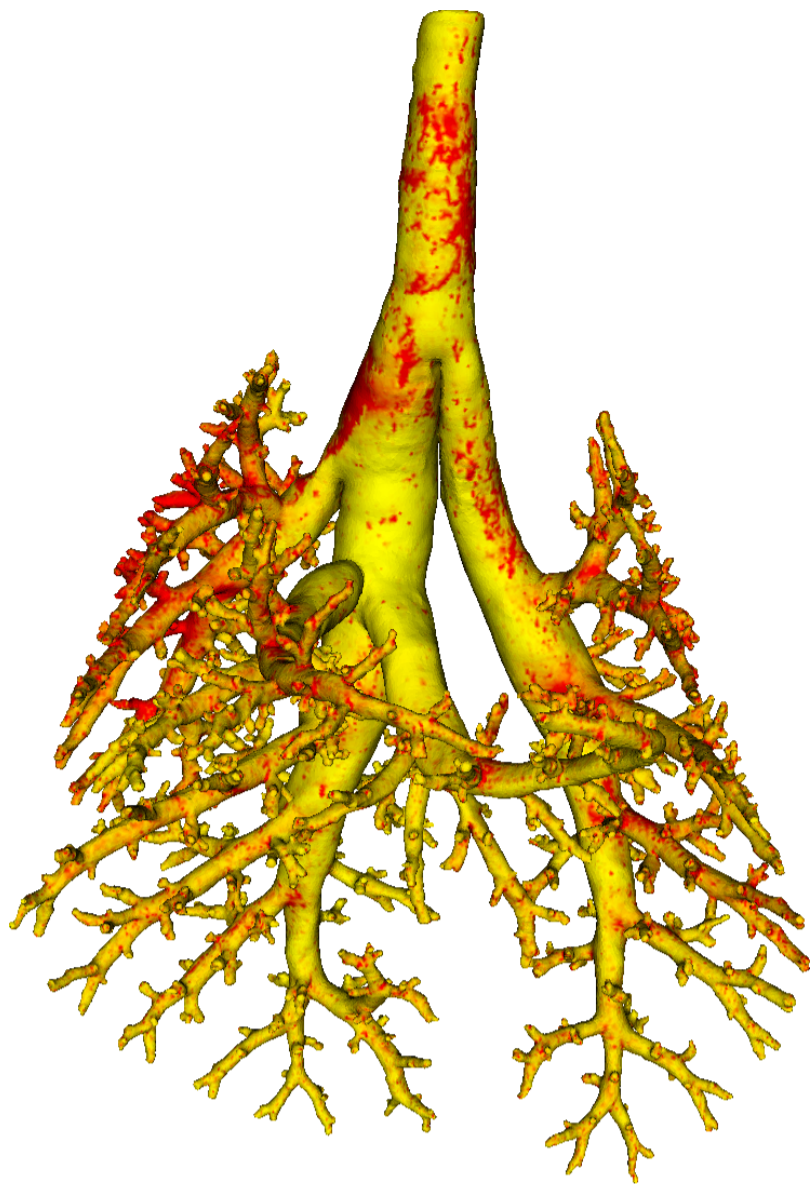


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m29

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: CD-1
- Weight (g): 24.9
- Vendor: Charles River
- 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: 2.13E+07 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	248	0.34	84.2	0.99
Post 7.5min Aerosol	221	0.27	60.1	0.87
Post 15min Aerosol	197	0.28	55.1	0.76

Slicing Info

- Approximate lung orientation: LAS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.71 x 4.71 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

	mt	ol	fl	rd	Notes
emission	N/A	470/30	535/30	635/30	
Image	Exp	Exp	Exp	Exp	Notes
white	25	100	2500	100	Rhodamine B in OCT
cal	20	125	67	400	
images		77	15000	2000	
darks		77	15000	2000	

- Notes regarding slicing:
 - Trachea might be a little misshapen.
 - Good aerosol signal.
 - Good sample.

Airway Segmentation

- Total centerline length: 589.996 mm
- Number of branches: 1458
- Number of terminal branches: 731
- Maximum generation number: 25
- Number of outlet areas: 2064

Compartment Sizes and Aerosol Deposition

- Lung volume: 1165.83 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1165.83
Lobes	5	233.17±91.33
Sublobes	57	19.88±19.81
Near acini	355	3.08±1.99

Lobe	Volume (mm ³)	Average aerosol deposition
left	361.99	1.12±3.40
cranial	214.29	2.12±4.68
middle	147.33	1.03±2.22
caudal	313.55	0.74±1.93
accessory	128.66	0.84±1.83

Additional Notes

- Overall quality: A
- Separation between accessory and middle lobe maybe off due to unusual shape and poor fissure visibility.