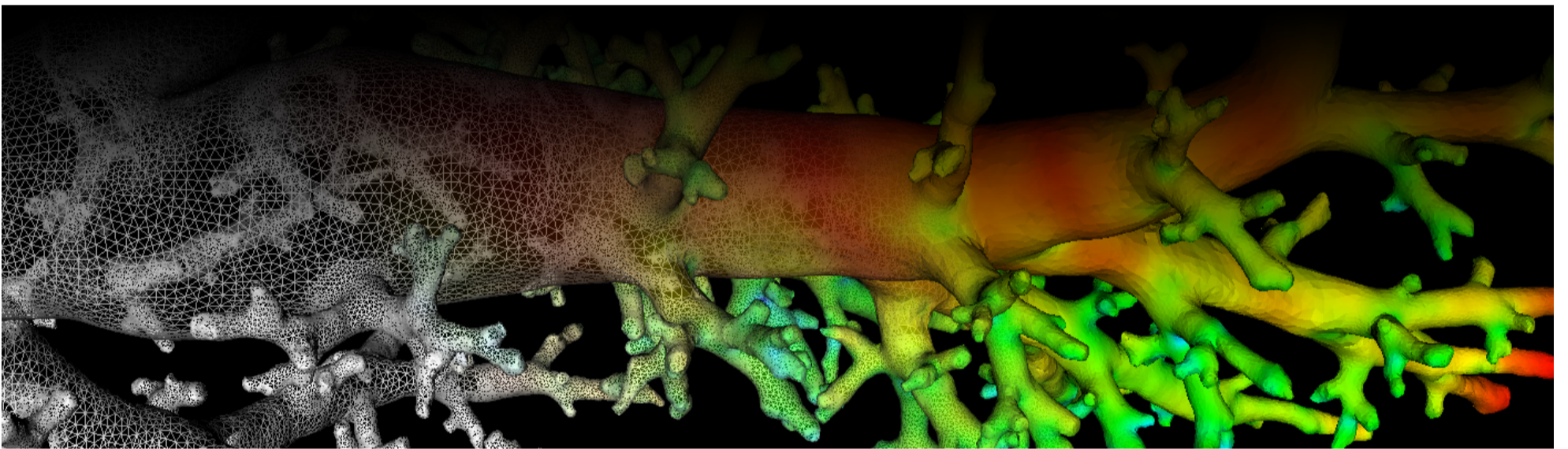
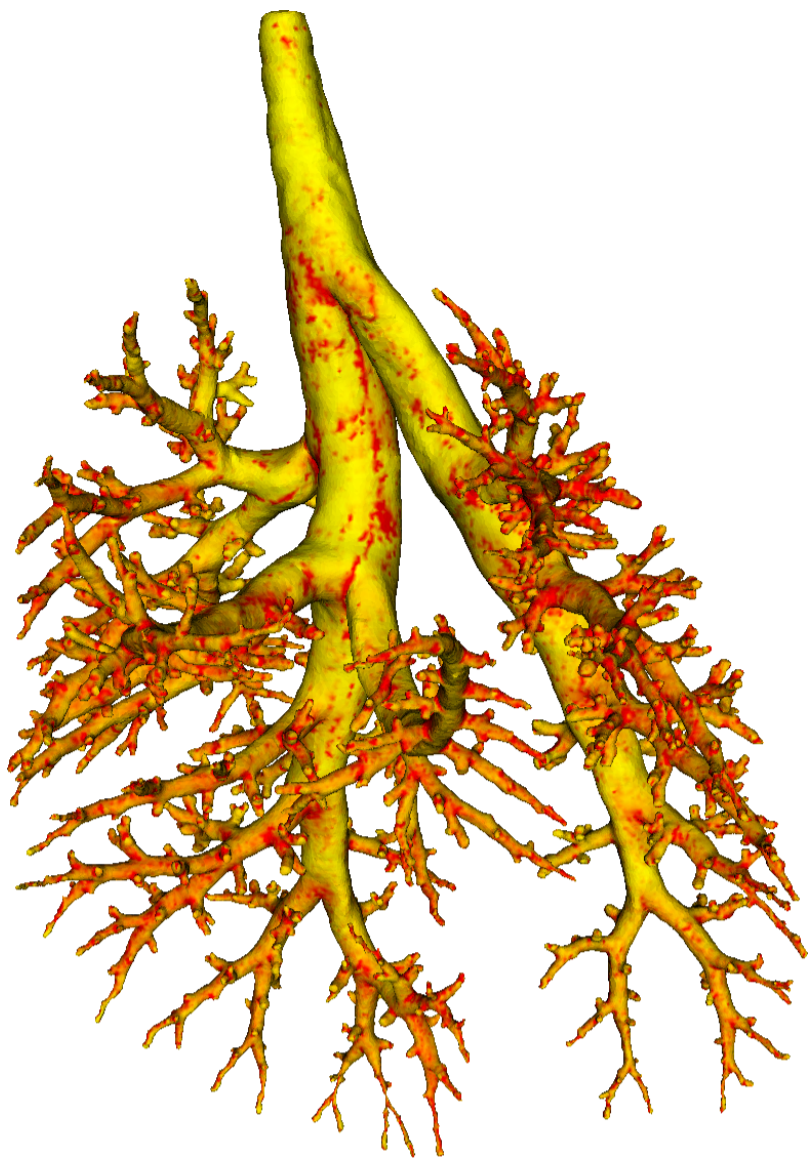


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m33

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: BALB/c
- Weight (g): 20.7
- 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: 0.5 microns
- Exposure time: 10 minutes
- Exposure estimate: 9.90E+08 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	233	0.24	56.3	0.85
Post 5min Aerosol	222	0.21	46.0	0.77
Post 10min Aerosol	195	0.19	37.4	0.64

Slicing Info

- Approximate lung orientation: LAS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.68 x 4.68 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	40	250	8000	250	Rhodamine B in OCT
cal	20	167	67	400	
images		77	20000	3000	
darks		77	20000	3000	

- Notes regarding slicing:
 - Good aerosol signal.
 - FI channel also looked okay.

Airway Segmentation

- Total centerline length: 506.133 mm
- Number of branches: 1281
- Number of terminal branches: 641
- Maximum generation number: 26
- Number of outlet areas: 1677

Compartment Sizes and Aerosol Deposition

- Lung volume: 1040.31 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1040.31
Lobes	5	208.06±91.70
Sublobes	57	17.92±18.70
Near acini	327	3.05±1.86

Lobe	Volume (mm ³)	Average aerosol deposition
left	351.08	1.11±1.90
cranial	187.23	1.31±1.90
middle	134.12	1.29±1.33
caudal	269.16	1.09±1.44
accessory	98.71	1.17±3.07

Additional Notes

- Overall quality: B
- Trachea was deformed and does not look physiologically correct; Segmentation does not model shape and does not attach to airway wall in some areas