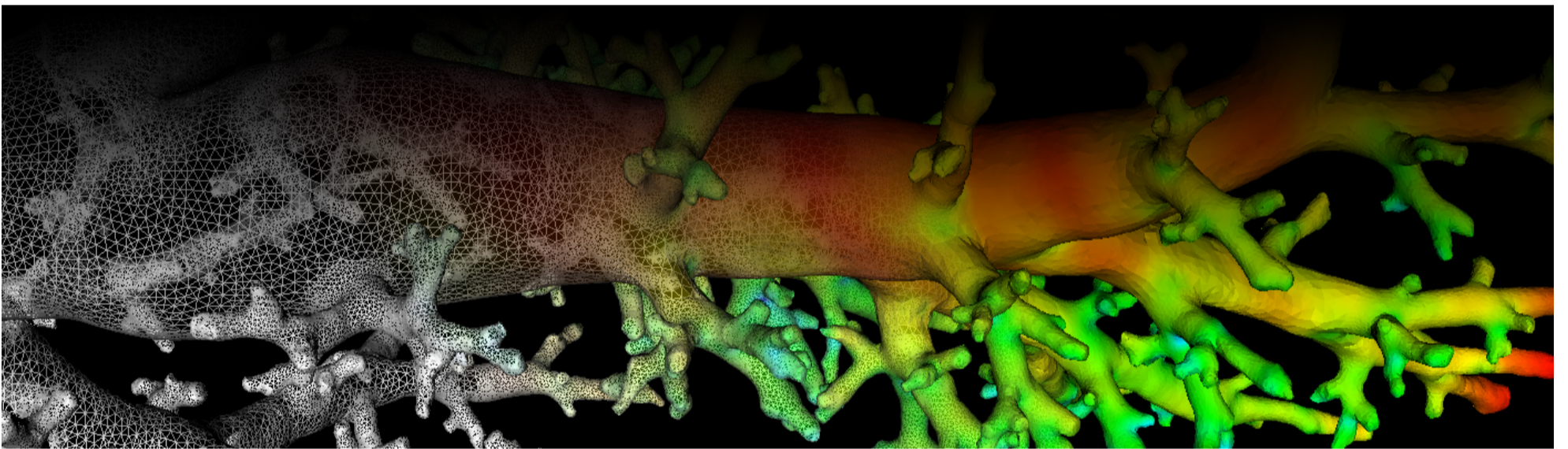
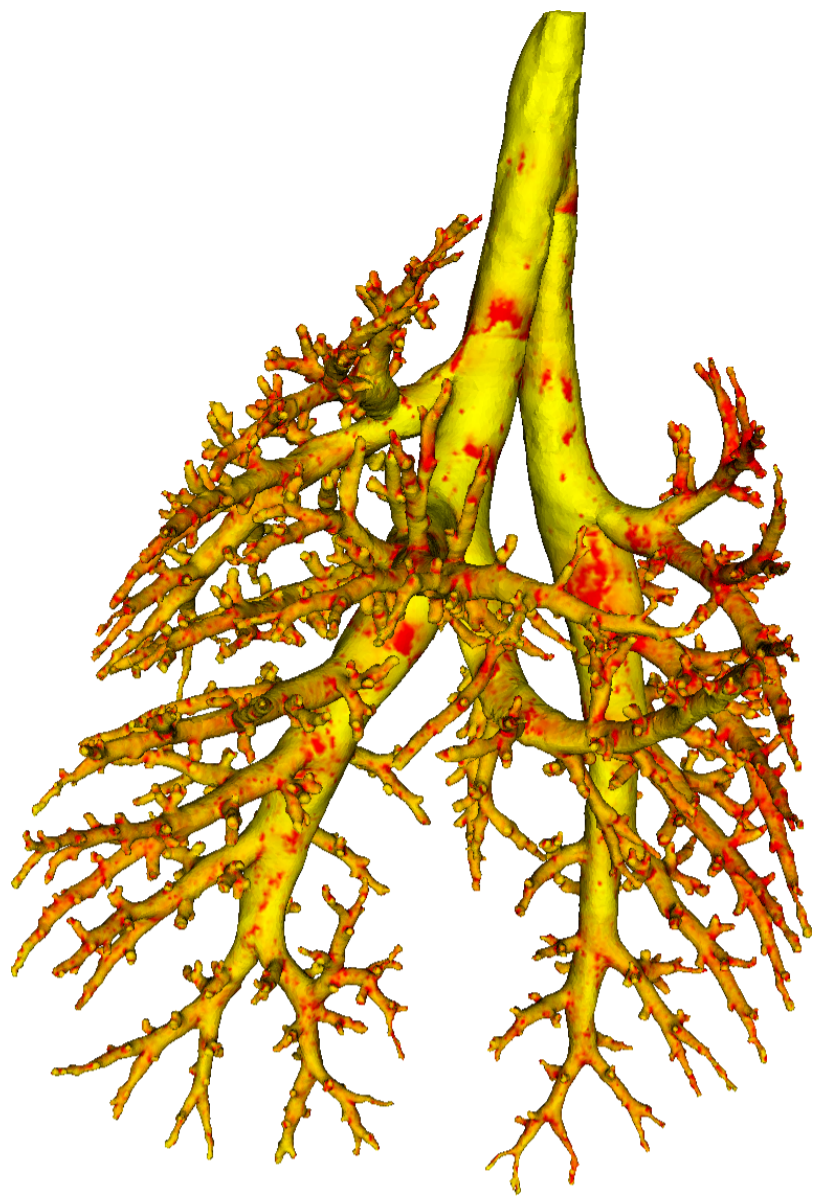


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m32

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: BALB/c
- 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: 0.5 microns
- Exposure time: 10 minutes
- Exposure estimate: 1.13E+09 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	237	0.24	55.8	0.93
Post 5min Aerosol	244	0.20	47.8	0.87
Post 10min Aerosol	232	0.20	47.4	0.84

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	33	200	8000	200	Rhodamine B in OCT
cal	20	167	67	400	
images		77	20000	3000	
darks		77	20000	3000	

- Notes regarding slicing:
 - Aerosol exposure looked good.
 - Lung apices are a little pinched from the mold.

Airway Segmentation

- Total centerline length: 567.705 mm
- Number of branches: 1427
- Number of terminal branches: 715
- Maximum generation number: 27
- Number of outlet areas: 1890

Compartment Sizes and Aerosol Deposition

- Lung volume: 1100.77 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1100.77
Lobes	5	220.15±99.38
Sublobes	54	19.96±19.24
Near acini	405	2.59±1.38

Lobe	Volume (mm ³)	Average aerosol deposition
left	361.96	1.36±1.92
cranial	188.13	1.29±1.96
middle	140.45	1.06±1.24
caudal	308.65	0.95±1.15
accessory	101.58	1.09±1.33

Additional Notes

- Overall quality: A