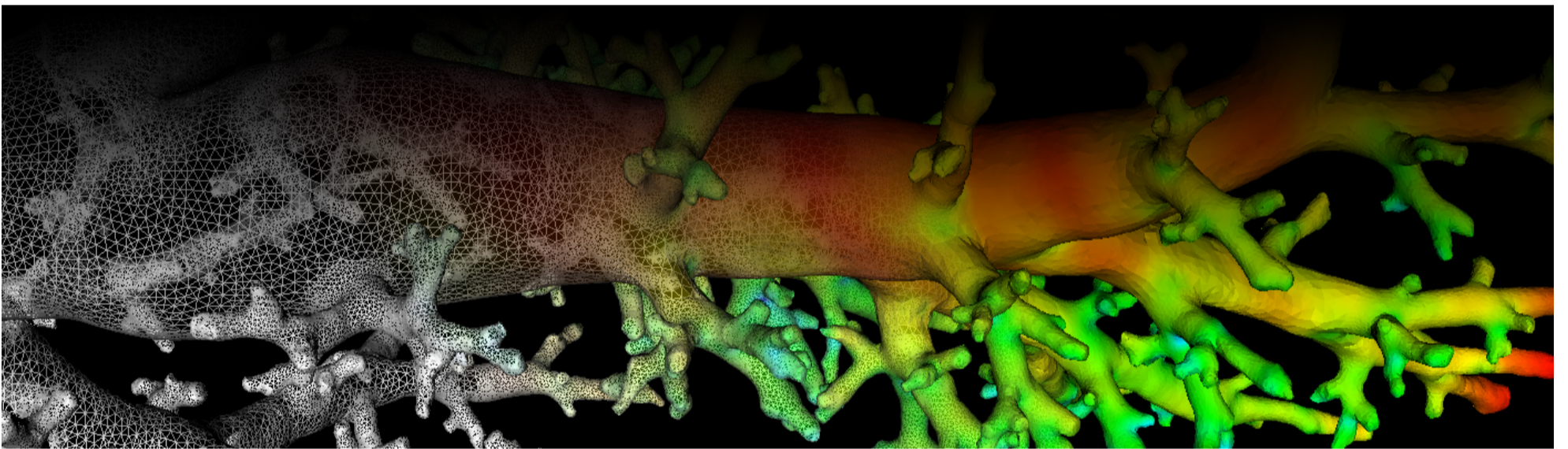
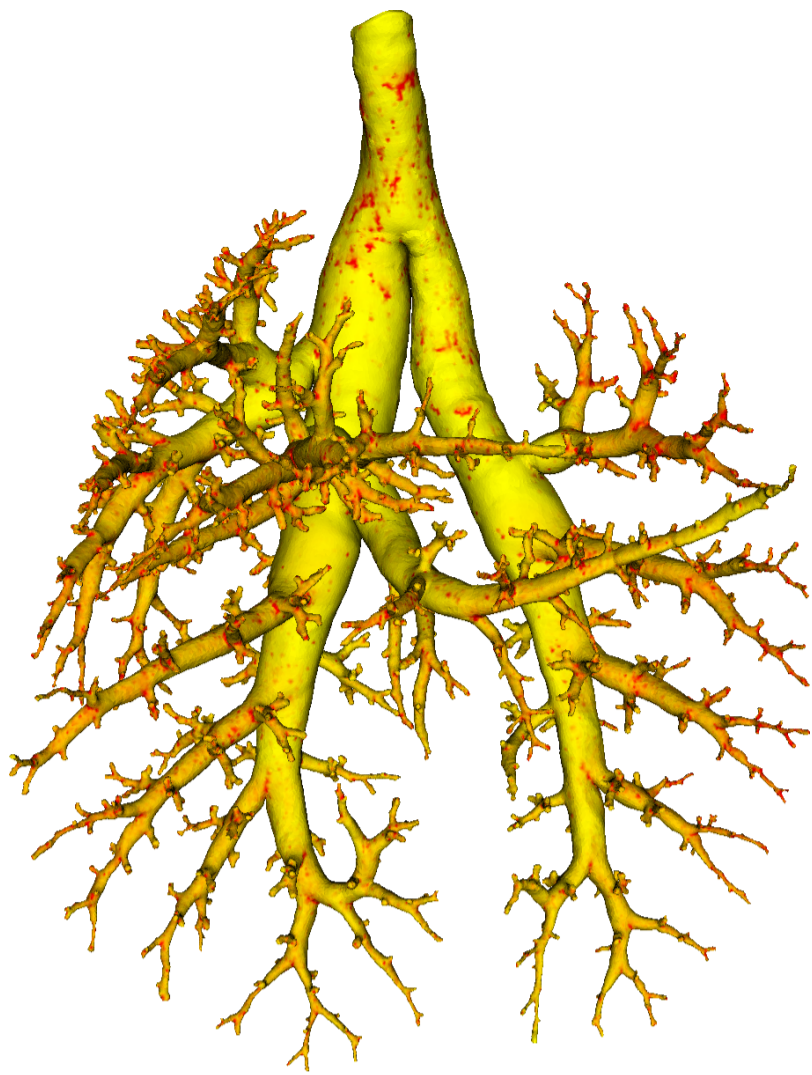


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m13

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: CD-1
- Weight (g): 23.4
- Vendor: Charles Rivers
- 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: 3.73E+08 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	161	0.27	43.2	0.86
Post 5 Aerosol	193	0.33	63.2	0.81
Post 10 Aerosol	115	0.26	30.0	0.53

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)
Image	Exp	Exp	Exp	Exp	Notes

	mt	ol	fl	rd	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:
 - The camera needed to be refocused at slice 407.

Airway Segmentation

- Total centerline length: 599.475 mm
- Number of branches: 1613
- Number of terminal branches: 808
- Maximum generation number: 26
- Number of outlet areas: 1866

Compartment Sizes and Aerosol Deposition

- Lung volume: 1202.26 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1202.26
Lobes	5	240.45±95.69
Sublobes	53	22.06±21.90
Near acini	404	2.83±1.57

Lobe	Volume (mm ³)	Average aerosol deposition
left	373.93	1.24±1.16
cranial	252.40	1.25±1.09
middle	160.73	1.30±0.94
caudal	305.86	1.04±0.83
accessory	109.34	1.06±0.89

Additional Notes

- Overall quality: A
- The walls of some peripheral airways were not well segmented.

Updated: 7/24/19

2018 r2b