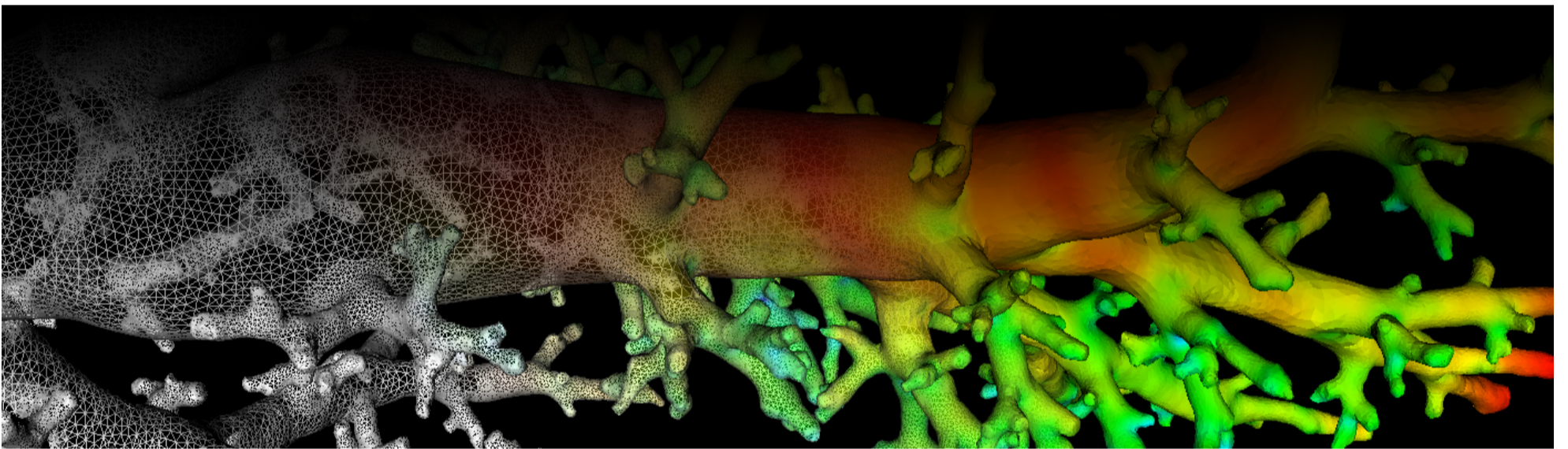
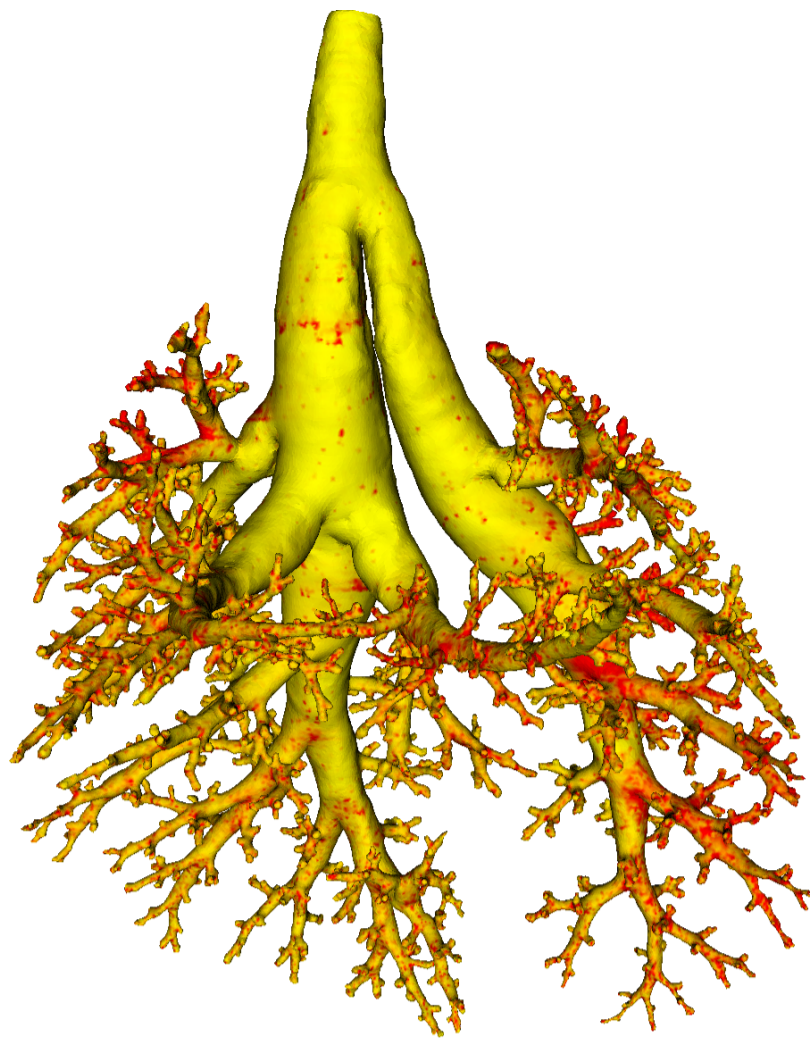


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m23

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: C57BL/6
- Weight (g): 19.9
- 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: 10 minutes
- Exposure estimate: 1.11E+07 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	257	0.24	61.2	0.95
Post 5min Aerosol	232	0.23	54.1	1.01
Post 10min Aerosol	209	0.23	47.1	1.01

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
emission	N/A	470/30	535/30	635/30	
Image	Exp	Exp	Exp	Exp	Notes

	mt	ol	fl	rd	Notes
white	33	200	6000	200	Rhodamine B in OCT
cal	20	167	67	400	
images		77	20000	2000	
darks		77	20000	2000	

- Notes regarding slicing:
 - The tip of the right lung fell out of the OCT at the end of slicing.
 - Aerosol signal seemed lower than other samples from this day.

Airway Segmentation

- Total centerline length: 648.032 mm
- Number of branches: 2017
- Number of terminal branches: 1011
- Maximum generation number: 26
- Number of outlet areas: 2169

Compartment Sizes and Aerosol Deposition

- Lung volume: 1186.47 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1186.47
Lobes	5	237.29±109.66
Sublobes	56	20.57±22.73
Near acini	282	3.97±2.42

Lobe	Volume (mm ³)	Average aerosol deposition
left	390.40	1.51±4.49
cranial	198.75	1.25±3.48
middle	148.31	1.10±1.31
caudal	340.60	0.91±1.43
accessory	108.42	1.06±2.95

Additional Notes

- Overall quality: A

Updated: 7/24/19

2018 r2b