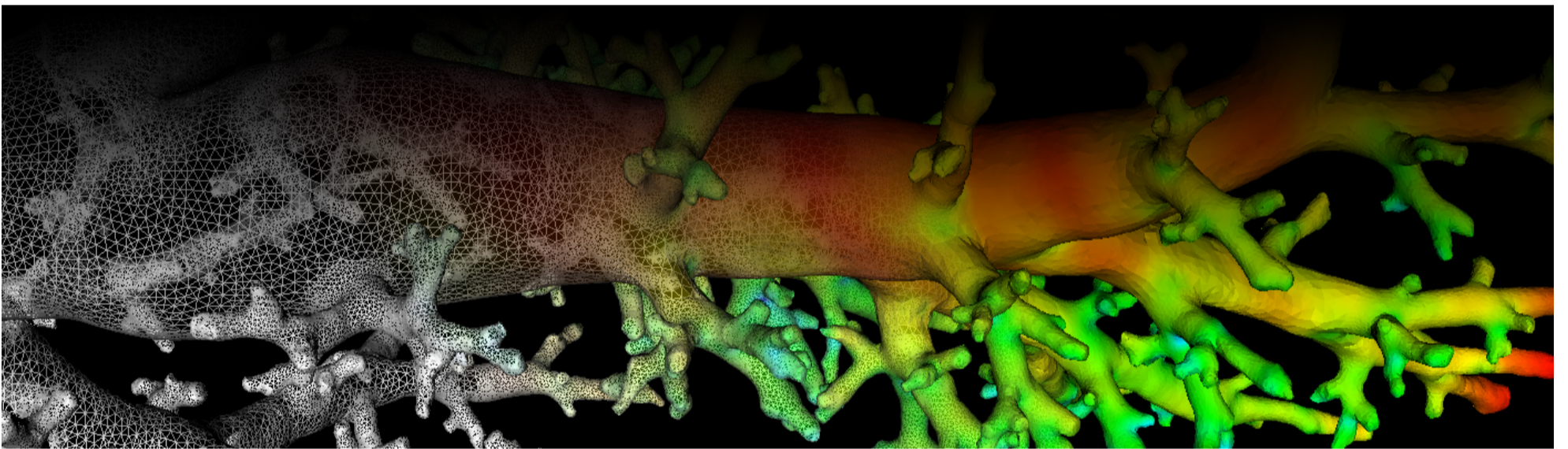
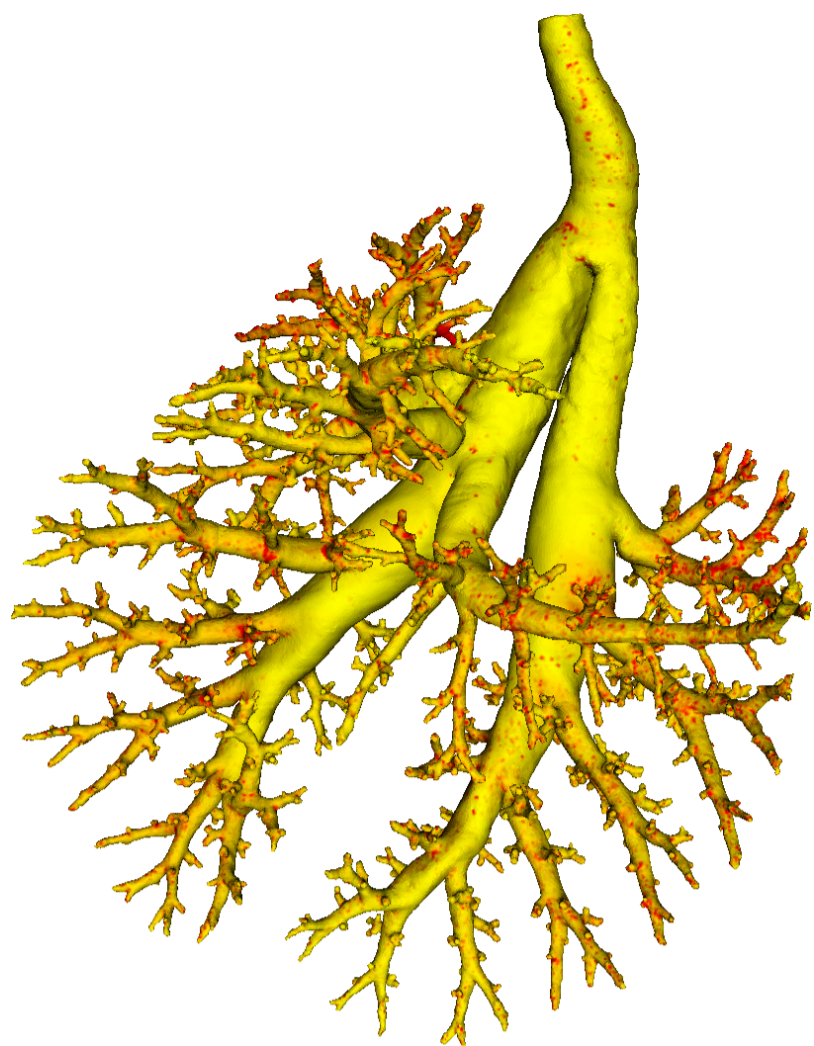


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m20

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: B6C3F1
- Weight (g): 19.9
- 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: 1.00E+07 FMS
- Problem with DAQ during exposure, so no breathing information for this animal.

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	NaN	NaN	NaN	NaN
Post 5min Aerosol	NaN	NaN	NaN	NaN
Post 10min Aerosol	NaN	NaN	NaN	NaN

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	

	mt	ol	fl	rd	Notes
Image	Exp	Exp	Exp	Exp	Notes
white	33	200	8000	200	Rhodamine B in OCT
cal	20	167	67	400	
images		77	20000	2000	
darks		77	20000	2000	

- Notes regarding slicing:
 - The cardiac lobe may be oddly shaped
 - Some OCT leaks and small tears in the right lung
 - Decent aerosol signal, but some very low signal areas and a few saturated blobs.
 - OK sample.

Airway Segmentation

- Total centerline length: 668.307 mm
- Number of branches: 1944
- Number of terminal branches: 976
- Maximum generation number: 24
- Number of outlet areas: 2353

Compartment Sizes and Aerosol Deposition

- Lung volume: 1078.04 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1078.04
Lobes	5	215.61±95.56
Sublobes	54	19.33±19.41
Near acini	300	3.36±2.18

Lobe	Volume (mm ³)	Average aerosol deposition
left	340.66	1.05±1.78
cranial	177.11	2.07±3.99
middle	135.91	0.92±1.01
caudal	317.46	1.15±1.32
accessory	106.91	0.83±1.08

Additional Notes

- Overall quality: A