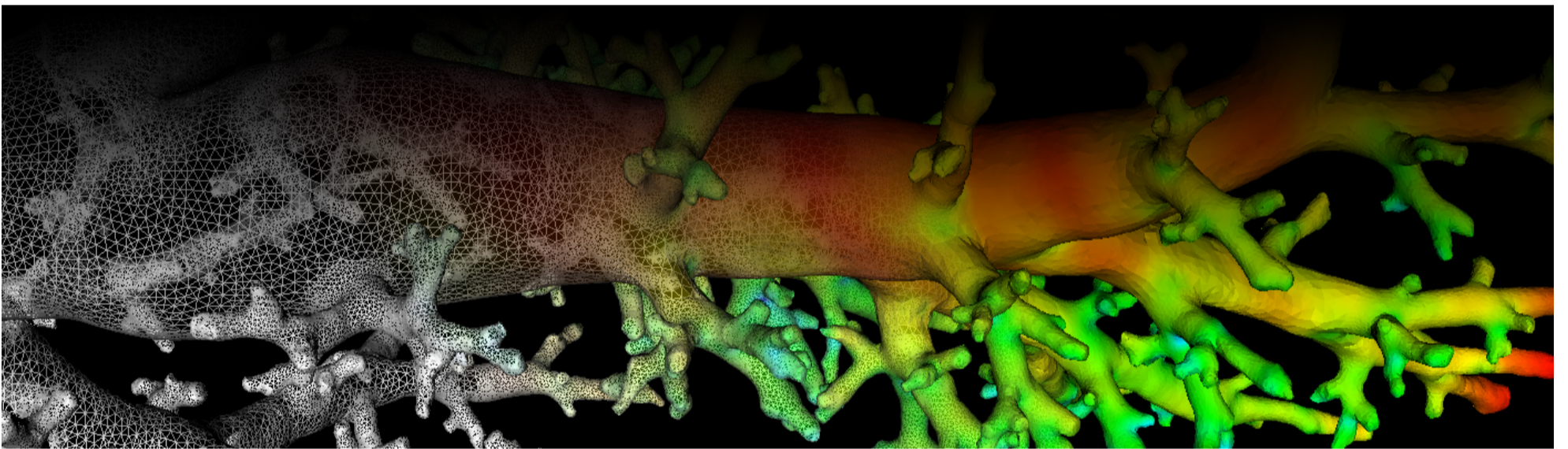
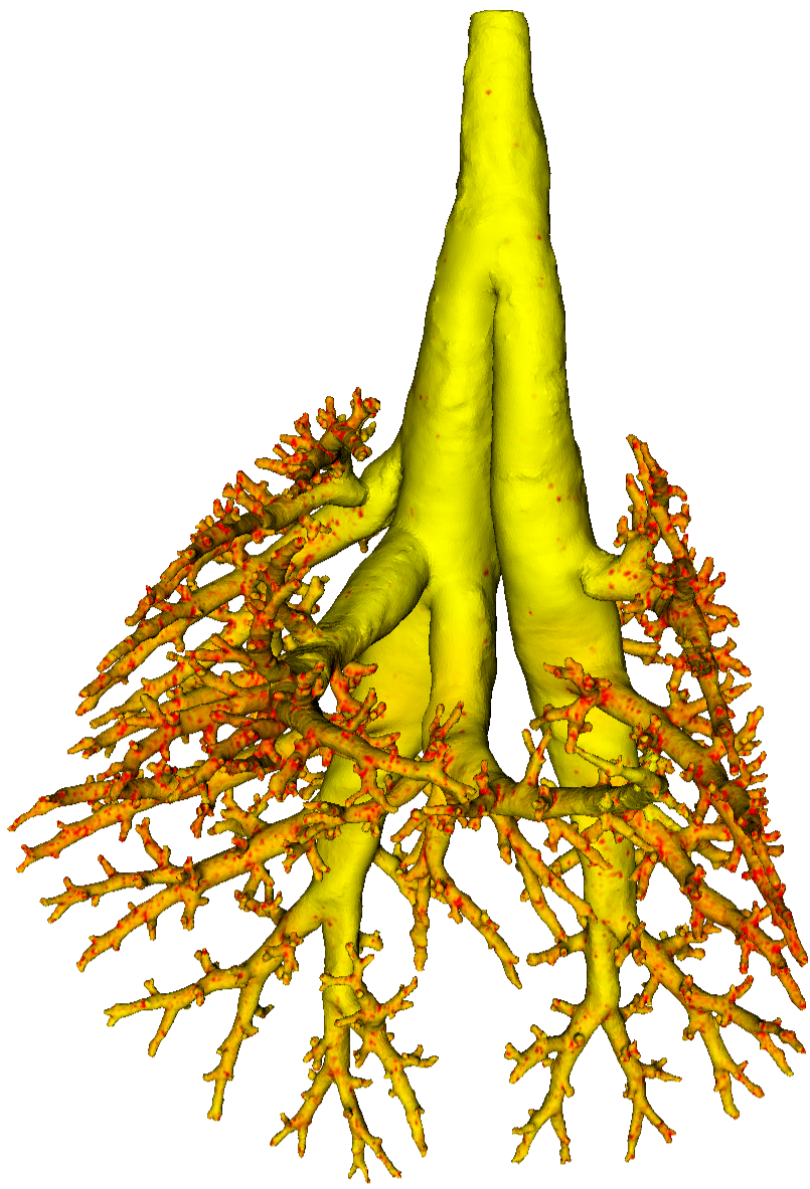


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m11

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Male
- Strain: B6C3F1
- 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: 3.83e+08 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	259	0.20	53.0	1.10
Post 5 Aerosol	202	0.19	38.0	1.19
Post 10 Aerosol	262	0.22	57.7	1.09

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

	mt	ol	fl	rd	Notes
emission	N/A	470/30	535/30	635/30	(nm)
Image	Exp	Exp	Exp	Exp	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:
 - Sample is mostly good, though a small pinch in the lung apices from the mold.
 - Lots of shards around slices 800-1100.

Airway Segmentation

- Total centerline length: 580.084 mm
- Number of branches: 1449
- Number of terminal branches: 727
- Maximum generation number: 24
- Number of outlet areas: 1990

Compartment Sizes and Aerosol Deposition

- Lung volume: 1097.30 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1097.30
Lobes	5	219.46±100.68
Sublobes	54	19.54±20.90
Near acini	425	2.40±1.30

Lobe	Volume (mm ³)	Average aerosol deposition
left	368.52	1.27±1.15
cranial	187.23	1.29±1.16
middle	129.24	1.49±1.20
caudal	303.44	1.00±0.96
accessory	108.86	1.09±0.95

Additional Notes

- Overall quality: A
- Segmentation of accessory lobe requires some manual slice by slice editing; the final surface is a little bit jagged.