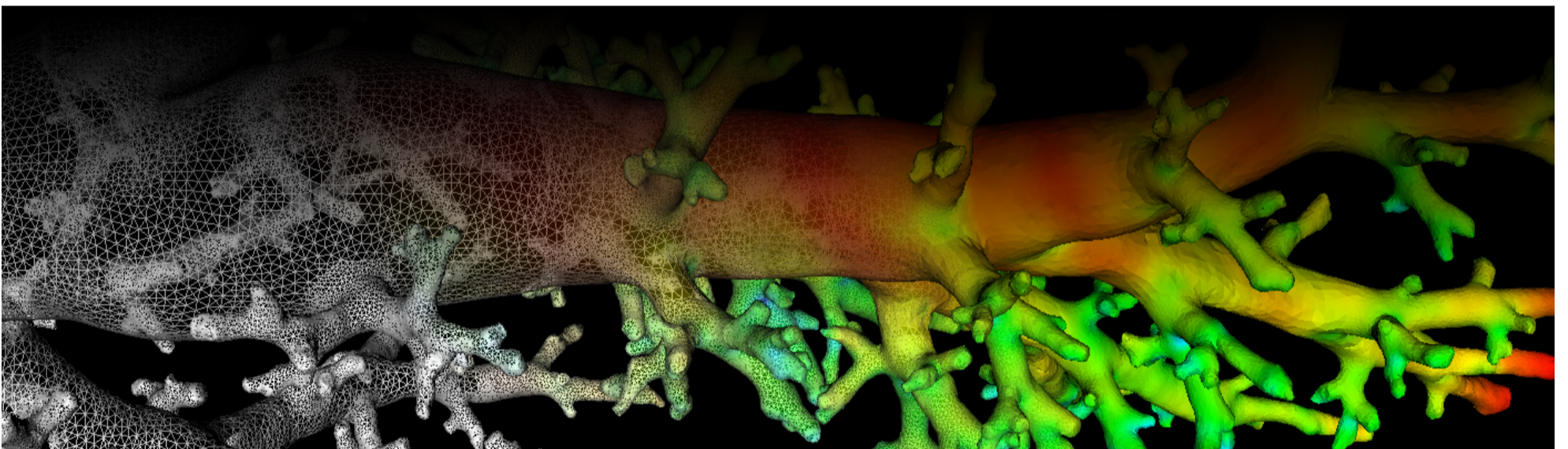
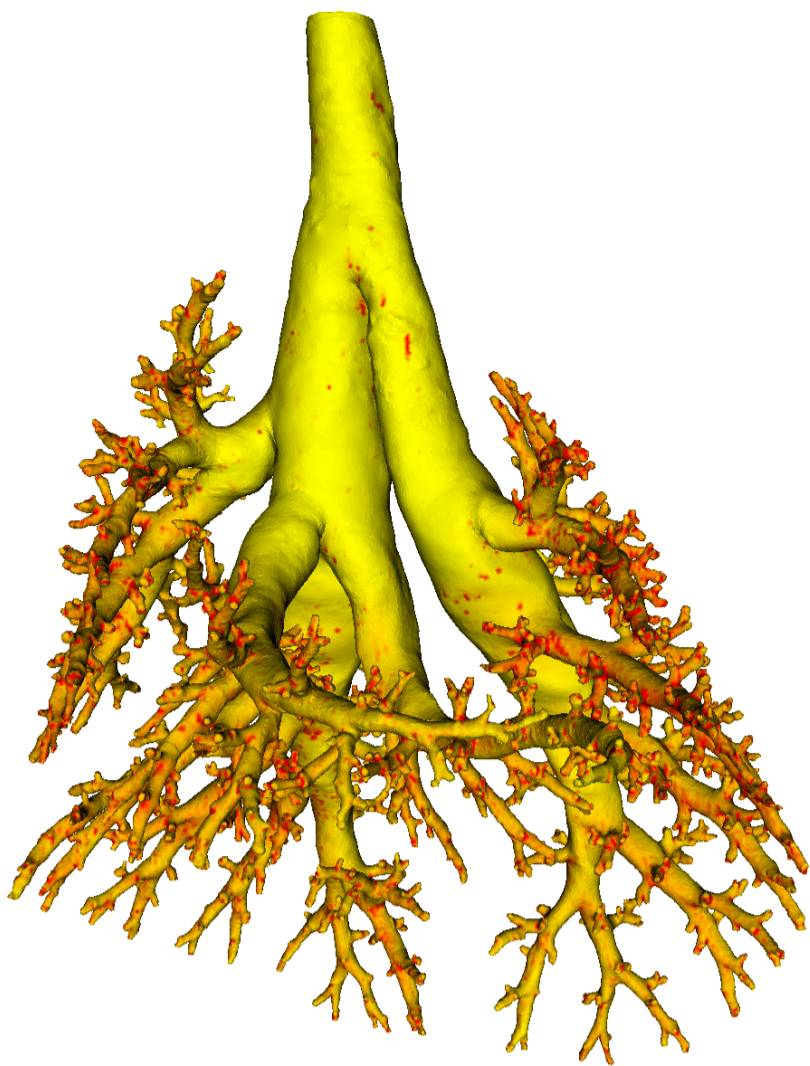


Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m02

[Go to data folder](#)



Mouse Physiologic Parameters

- Sex: Female
- Strain: B6C3F1
- Weight (g): 19.5
- 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: 7.43E+07 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	195	0.19	37.5	1.01
Post 5 Aerosol	138	0.14	18.7	1.03
Post 10 Aerosol	155	0.19	29.7	1.10

Slicing Info

- Approximate lung orientation: RPS
- 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:
 - Note that orientation is rotated 180 degrees from normal
 - Slight focusing problem around slices 762-765.

Airway Segmentation

- Total centerline length: 586.798 mm
- Number of branches: 1556
- Number of terminal branches: 780
- Maximum generation number: 24
- Number of outlet areas: 1817

Compartment Sizes and Aerosol Deposition

- Lung volume: 1067.14 (mm³)

Compartments	Count	Volume (mm ³)
Lung	1	1067.14
Lobes	5	213.43±92.58
Sublobes	55	18.83±20.49
Near acini	396	2.53±1.41

Lobe	Volume (mm ³)	Average aerosol deposition
left	343.31	1.26±1.12
cranial	200.19	1.30±1.14
middle	132.72	1.19±0.96
caudal	292.02	1.12±1.00
accessory	98.90	1.21±1.02

Additional Notes

- Overall quality: A
- Artifacts in white field calibration layer
- Remaining light fluctuation in trachea at cryomicrotome stoppage