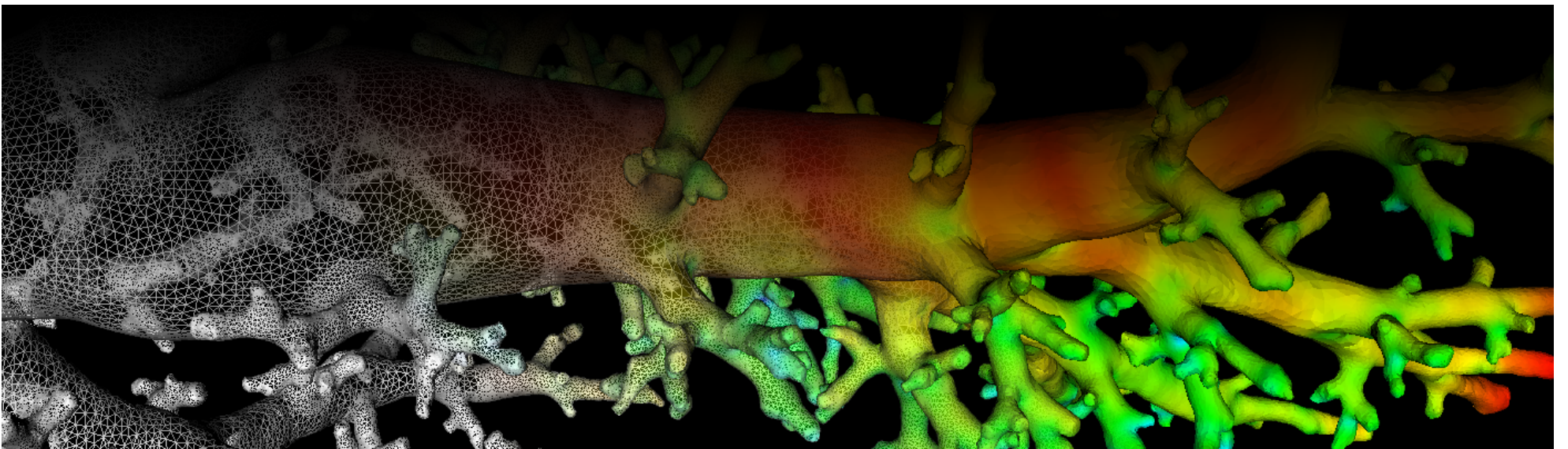
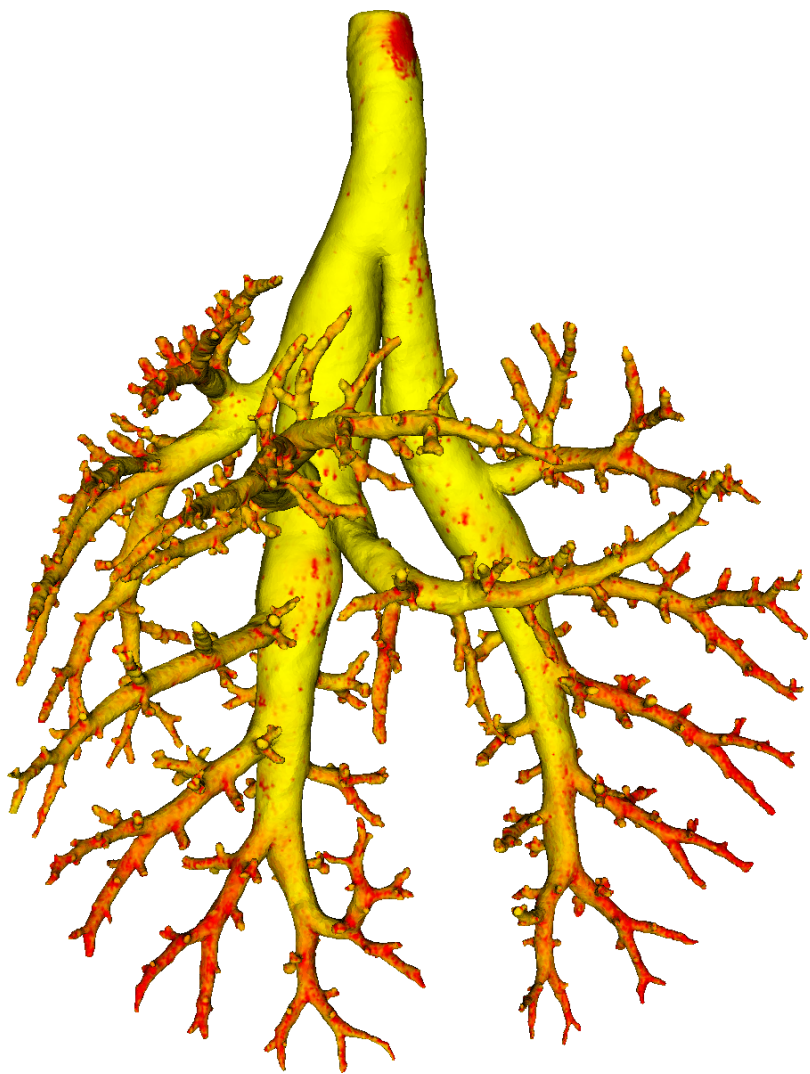


# Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m04

[Go to data folder](#)



## Mouse Physiologic Parameters

- Sex: Male
- Strain: CD-1
- Weight (g): 24.4
- 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: 2.65E+08 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	129	0.32	40.9	0.86
Post 5 Aerosol	99	0.33	32.4	1.06
Post 10 Aerosol	100	0.27	26.8	0.56

## Slicing Info

- Approximate lung orientation: LAS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.57 x 4.57 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	100	500	white paper, x=UVND2
white	25	25	4	4	white paper, m=EMPTY
cal	50	50	50	100	
images	N/A	50	20000	400	
darks		50	20000	400	

- Notes regarding slicing:
  - The beginning of the sample had lots of shards.
  - Used clear OCT on sample surface before restarting after long stoppage.

## Airway Segmentation

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- Total centerline length: 453.592 mm
- Number of branches: 994
- Number of terminal branches: 498
- Maximum generation number: 24
- Number of outlet areas: 1167

## Compartment Sizes and Aerosol Deposition

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- Lung volume: 1224.19 (mm<sup>3</sup>)

Compartments	Count	Volume (mm <sup>3</sup> )
Lung	1	1224.19
Lobes	5	244.84±114.40
Sublobes	54	22.19±21.39
Near acini	412	2.84±1.63

Lobe	Volume (mm <sup>3</sup> )	Average aerosol deposition
left	410.59	1.42±1.63
cranial	237.22	1.24±1.26
middle	149.80	0.89±0.87
caudal	329.24	1.08±1.27
accessory	97.34	1.00±1.15

## Additional Notes

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- Overall quality: B
- Cryomicrotome stoppage lead to imaging artifacts, which in return resulted in missing airway branches in this area.

Updated: 7/24/19  
2018 r2b