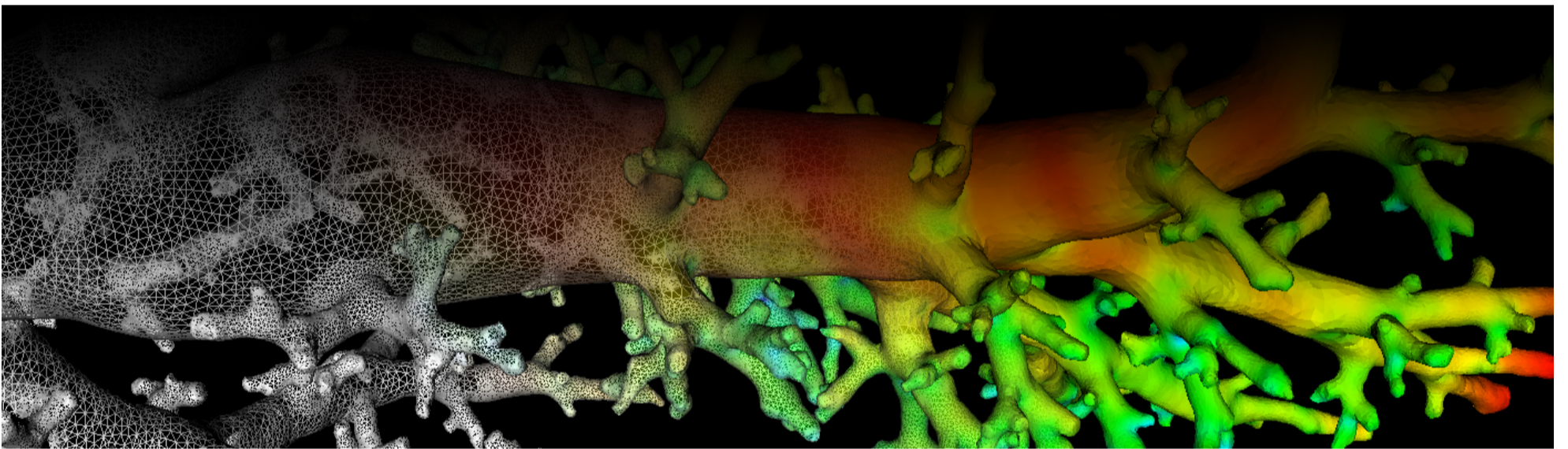
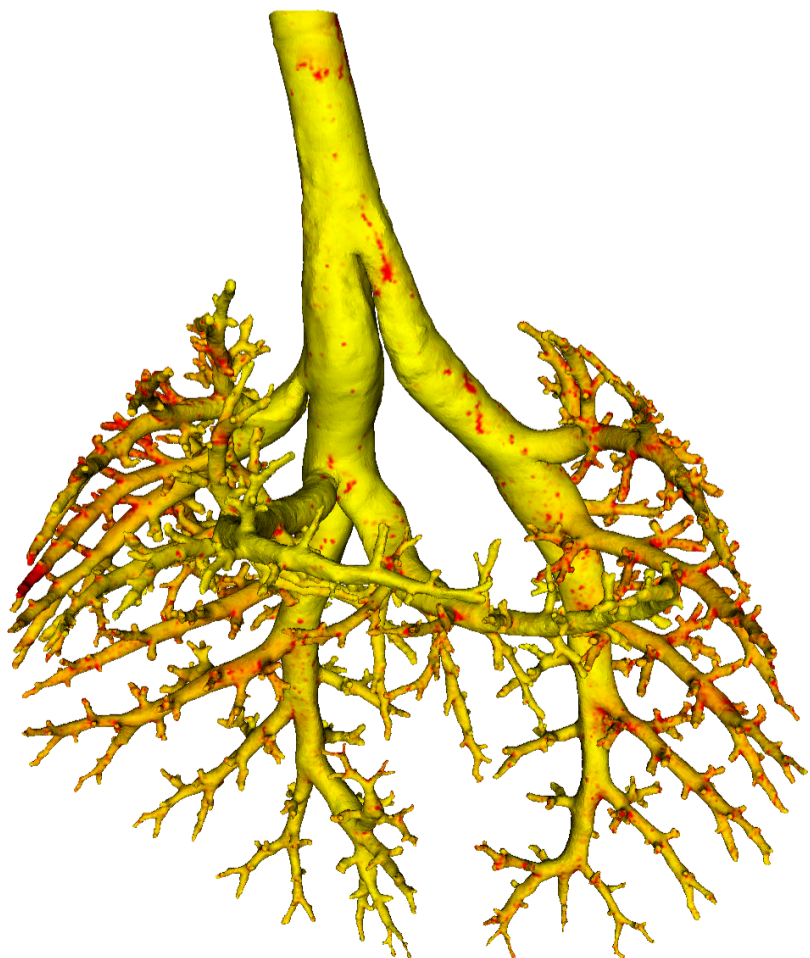


# Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m21

[Go to data folder](#)



## Mouse Physiologic Parameters

- Sex: Male
- Strain: CD-1
- Weight (g): 26.0
- 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: 9.98E+06 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	197	0.32	63.2	0.81
Post 5min Aerosol	174	0.30	52.7	0.75
Post 10min Aerosol	170	0.30	51.8	0.75

## Slicing Info

- Approximate lung orientation: LAS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.67 x 4.67 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
white	33	200	8000	200	Rhodamine B in OCT
cal	20	167	67	400	
images		67	20000	1600	
darks		67	20000	1600	

- Notes regarding slicing:
  - There is a discontinuity in the trachea when the lamp turned off
  - The trachea is very hort because some of this sample was sliced off on a previous day
  - Overall a good sample. The aerosol signal was good.

## Airway Segmentation

- Total centerline length: 582.834 mm
- Number of branches: 1518
- Number of terminal branches: 760
- Maximum generation number: 26
- Number of outlet areas: 1804

## Compartment Sizes and Aerosol Deposition

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- Lung volume: 1224.76 (mm<sup>3</sup>)

Compartments	Count	Volume (mm <sup>3</sup> )
Lung	1	1224.76
Lobes	5	244.95±102.52
Sublobes	51	23.63±24.27
Near acini	311	3.79±2.96

Lobe	Volume (mm <sup>3</sup> )	Average aerosol deposition
left	389.74	1.30±2.97
cranial	243.00	1.59±3.52
middle	148.36	0.72±2.60
caudal	324.74	1.12±1.52
accessory	118.91	0.80±1.17

## Additional Notes

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- Overall quality: B
- tip of accessory lobe broke off
- some missing distal airways

Updated: 7/24/19  
2018 r2b