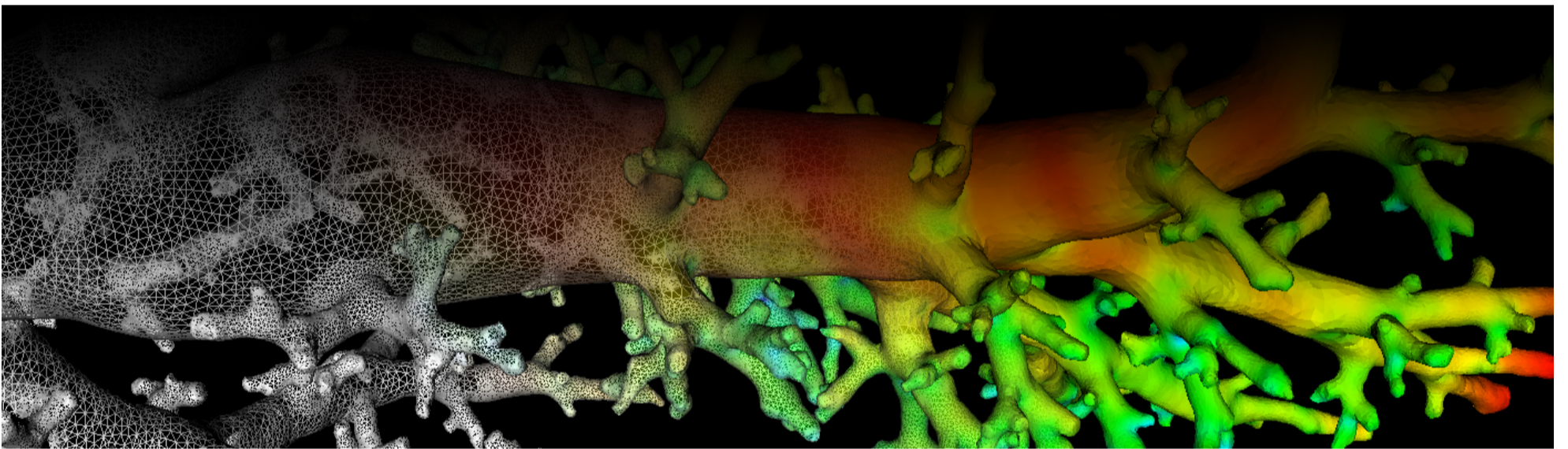
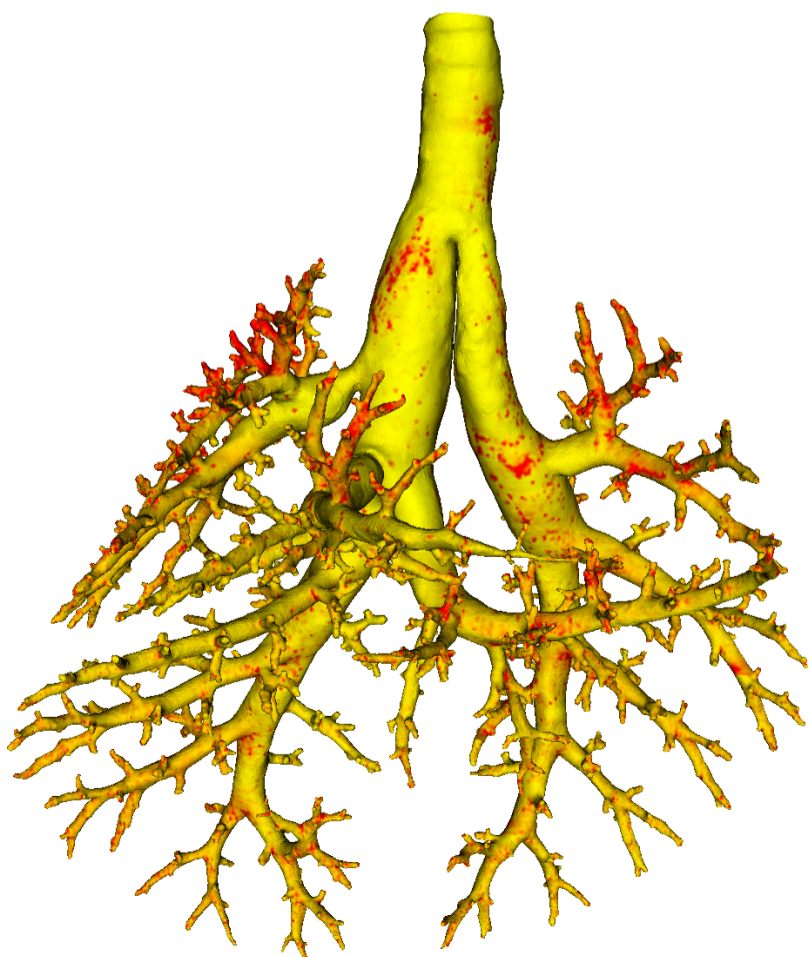


# Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m18

[Go to data folder](#)



## Mouse Physiologic Parameters

- Sex: Female
- Strain: CD-1
- Weight (g): 23.2
- Vendor: Charles River
- Physical abnormalities: FMS on nose and esophagus
- 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: 9.20E+06 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	244	0.29	71.0	0.98
Post 5min Aerosol	199	0.23	46.4	0.92
Post 10min Aerosol	201	0.25	49.9	0.90

## Slicing Info

- Approximate lung orientation: RPS
- Camera: D7100, 14-bit, 200mm Nikkor Macro lens, f/16
- Voxel size: 4.68 x 4.68 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		57	20000	1600	

- Notes regarding slicing:
  - Sample is rotated 180 degrees around trachea from normal - posterior region appears at the top of the image.
  - Good aerosol signal throughout.

## Airway Segmentation

- Total centerline length: 506.222 mm
- Number of branches: 1210
- Number of terminal branches: 606
- Maximum generation number: 23
- Number of outlet areas: 1440

## Compartment Sizes and Aerosol Deposition

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- Lung volume: 1143.70 (mm<sup>3</sup>)

Compartments	Count	Volume (mm <sup>3</sup> )
Lung	1	1143.70
Lobes	5	228.74±87.89
Sublobes	55	20.39±19.67
Near acini	365	3.01±2.03

Lobe	Volume (mm <sup>3</sup> )	Average aerosol deposition
left	348.67	1.12±3.01
cranial	206.61	1.93±3.43
middle	144.28	0.89±2.99
caudal	312.98	0.97±3.26
accessory	131.16	1.05±3.81

## Additional Notes

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- Overall quality: B
- some airway branches missing

Updated: 7/24/19  
2018 r2b