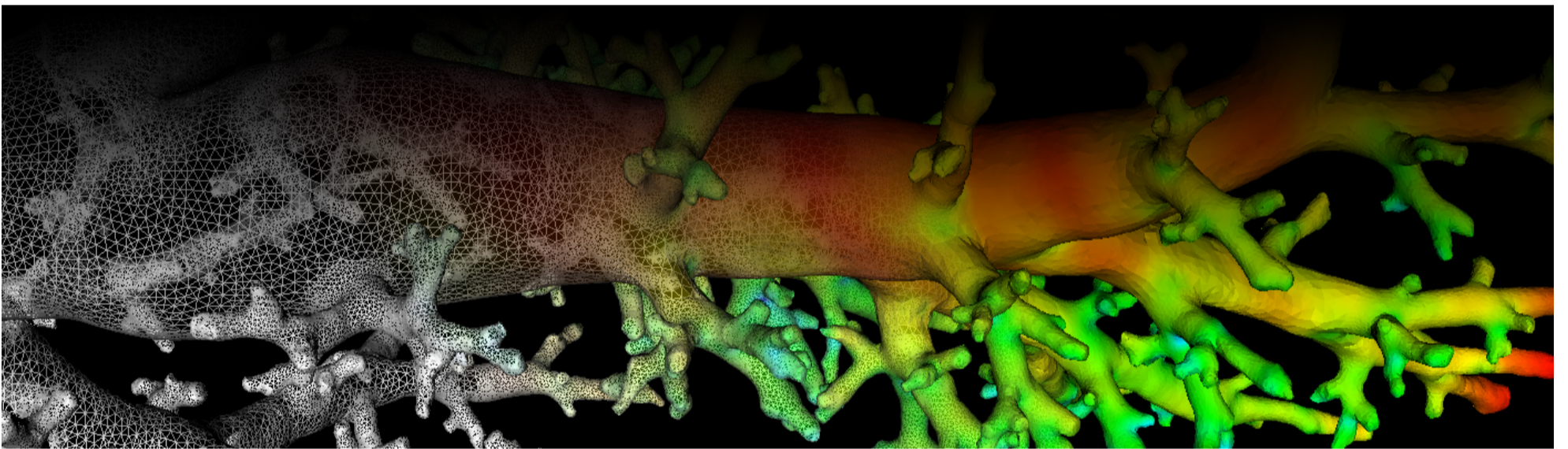
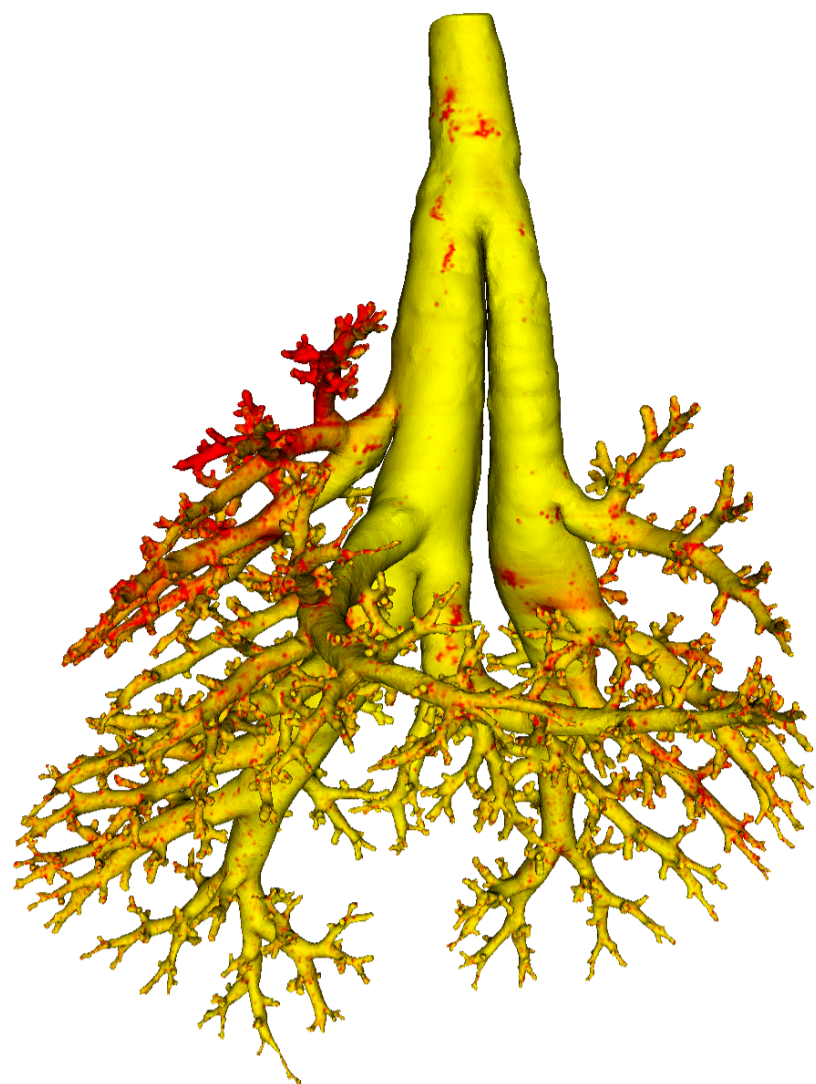


# Lung Anatomy + Particle Deposition (lapd) Mouse Archive for Modeling and Computational Toxicology



m19

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## Mouse Physiologic Parameters

- Sex: Male
- Strain: C57BL/6
- Weight (g): 24.5
- Vendor: Jackson Labs
- 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: 10 minutes
- Exposure estimate: 1.47E+07 FMS

Time	RR (bpm)	Vt (ml)	VE (ml/min)	I:E
Pre Aerosol	276	0.29	80.3	0.88
Post 5min Aerosol	264	0.29	76.1	0.83
Post 10min Aerosol	233	0.25	57.3	0.62

## Slicing Info

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

	mt	ol	fl	rd	Notes
Image	Exp	Exp	Exp	Exp	Notes
white	33	200	6000	200	Rhodamine B in OCT
cal	20	167	67	400	
images		77	20000	2000	
darks		77	20000	2000	

- Notes regarding slicing:
  - Good aerosol signal throughout. Some clumps.

## Airway Segmentation

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- Total centerline length: 704.979 mm
- Number of branches: 2285
- Number of terminal branches: 1146
- Maximum generation number: 27
- Number of outlet areas: 2549

## Compartment Sizes and Aerosol Deposition

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- Lung volume: 1140.65 (mm<sup>3</sup>)

Compartments	Count	Volume (mm <sup>3</sup> )
Lung	1	1140.65
Lobes	5	228.13±102.92
Sublobes	53	20.93±20.72
Near acini	341	3.16±1.73

Lobe	Volume (mm <sup>3</sup> )	Average aerosol deposition
left	365.59	1.06±3.31
cranial	192.15	2.67±7.75
middle	135.25	0.89±1.75
caudal	333.61	0.77±1.79
accessory	114.05	0.73±1.89

## Additional Notes

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- Overall quality: B
- Some artifacts on lung surface
- Skeleton in caudal main branch is off for one bifurcation