



Respiratory solutions  
for better patient care

# Scientific Visualization

Create meaningful and expressive  
3D visuals with real scientific data.

**INTUITIVE  
DYNAMIC  
PATIENT-SPECIFIC**

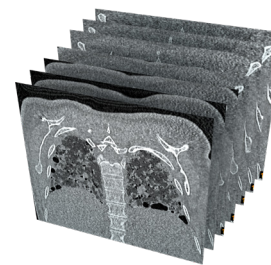
[www.FLUIDDA.com](http://www.FLUIDDA.com)

# FRI

## Functional Respiratory Imaging

**Functional Respiratory Imaging (FRI)** is a clinically meaningful and non-invasive measurement of the patient-specific respiratory system. A set of distinct biomarkers analyzes *exposure, structure and function* of the lungs and airways in any respiratory disease.

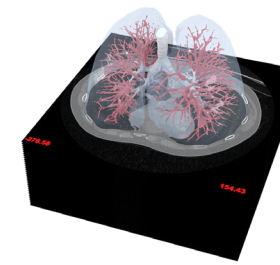
The usage of FRI biomarkers as endpoints in therapy development is scalable and easy to implement:



1

### Image acquisition

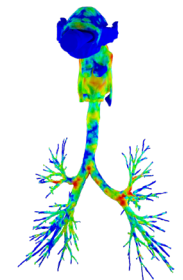
The process starts with the acquisition of low dose, high-resolution computed tomography (HRCT) scans of the patient's thorax



2

### Structure segmentation

Measurements are performed on the segmented 3-dimensional geometries from these scans



3

### Flow simulation

Computational fluid dynamics (CFD) is used to quantify airflow and exposure to inhaled particles



## OVERCOME



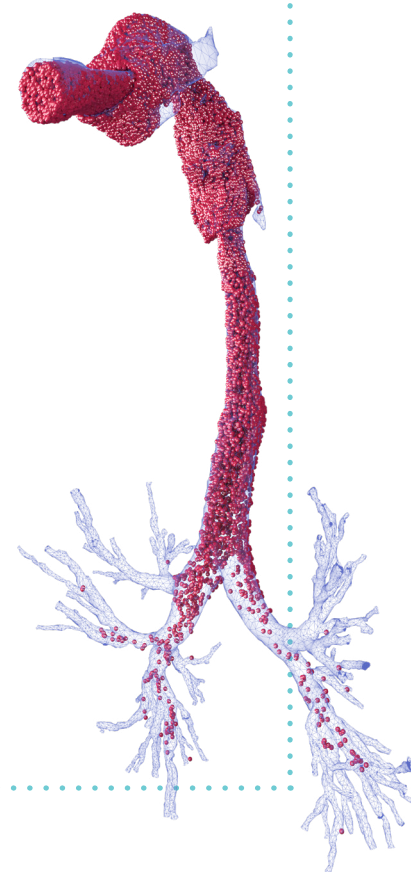
the difficulty of  
translating complicated,  
scientific study results  
into meaningful  
visualizations

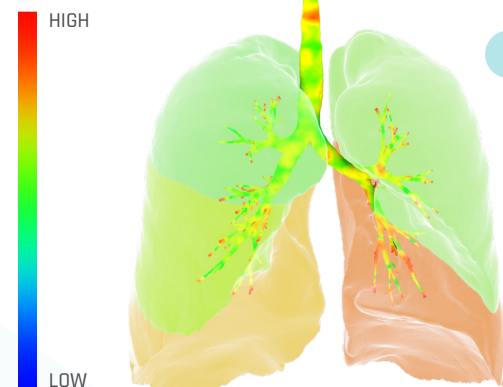
## THROUGH THE USE OF FRI IN



### Scientific Visualization

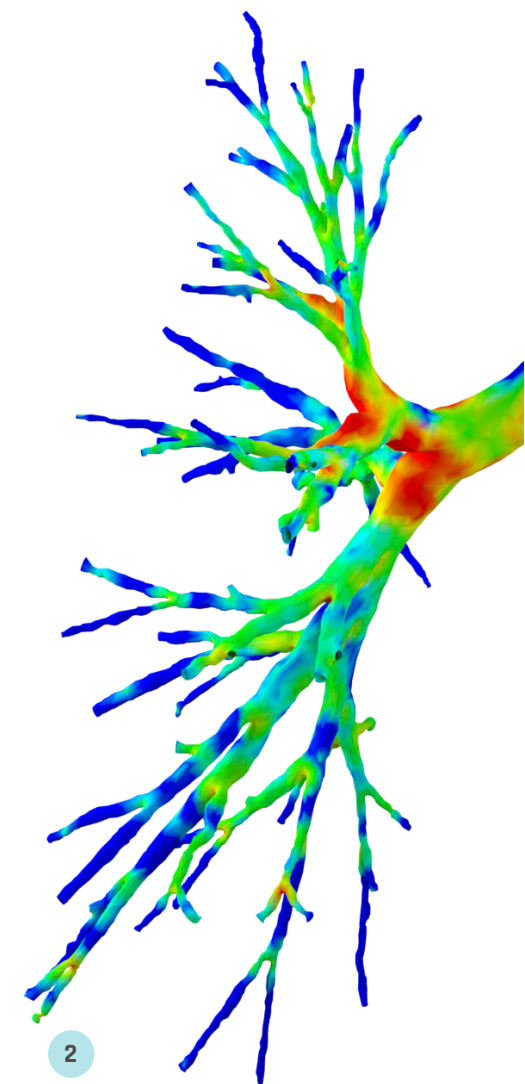
Phase III bio-better or bio-similar  
Phase IV clinical trials





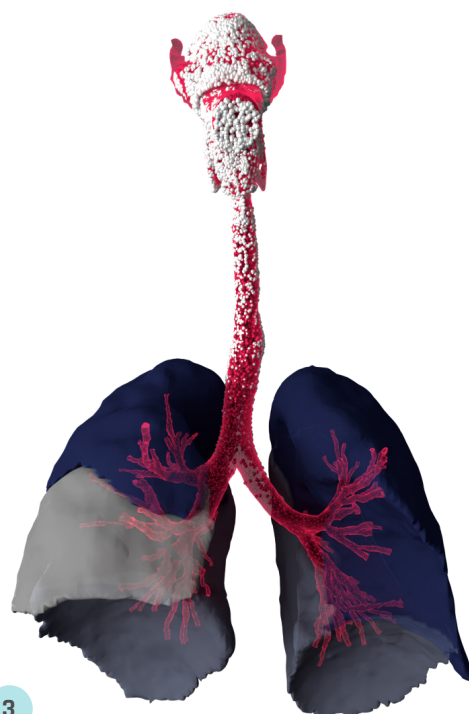
## SCIENTIFIC VISUALIZATION OPTIONS

- > Drug-device **regional deposition** 1
- > **Deposition concentration** images 2
- > **Transport of particles** and concentration build-up animations 3
- > **Disease description** with patient specific anatomy 4
- > **Scintigraphy-like imagery** to show concentration build-up animated over time or in static images
- > **Personalized visuals** to fit your particular branding





- Get a better grasp on the numbers with clear, realistic visuals
- Convince your stakeholders (e.g. regulatory agencies, investors, reimbursement agencies, and physicians) with study results by means of visualization, using **real scientific data for individual patients**
- Prepare impressive promotional materials that are **intuitive, meaningful, and scientific**



3

## BRONCHIECTASIS



## MUCUS PLUGGING

4

## CLIENT EXPERIENCE ▼



FLUIDDA's technology is a high level tool that supported our communication with science and valuable insights. We would like to continue to develop other collaborations with FLUIDDA to make our data more and more robust.

### Greta Pizzamiglio

Brand Manager  
Cystic Fibrosis at Zambon



We have found FRI to be a really useful mechanism via which to explore the potential differences in lung deposition for different inhalation delivery systems in specific patient populations.

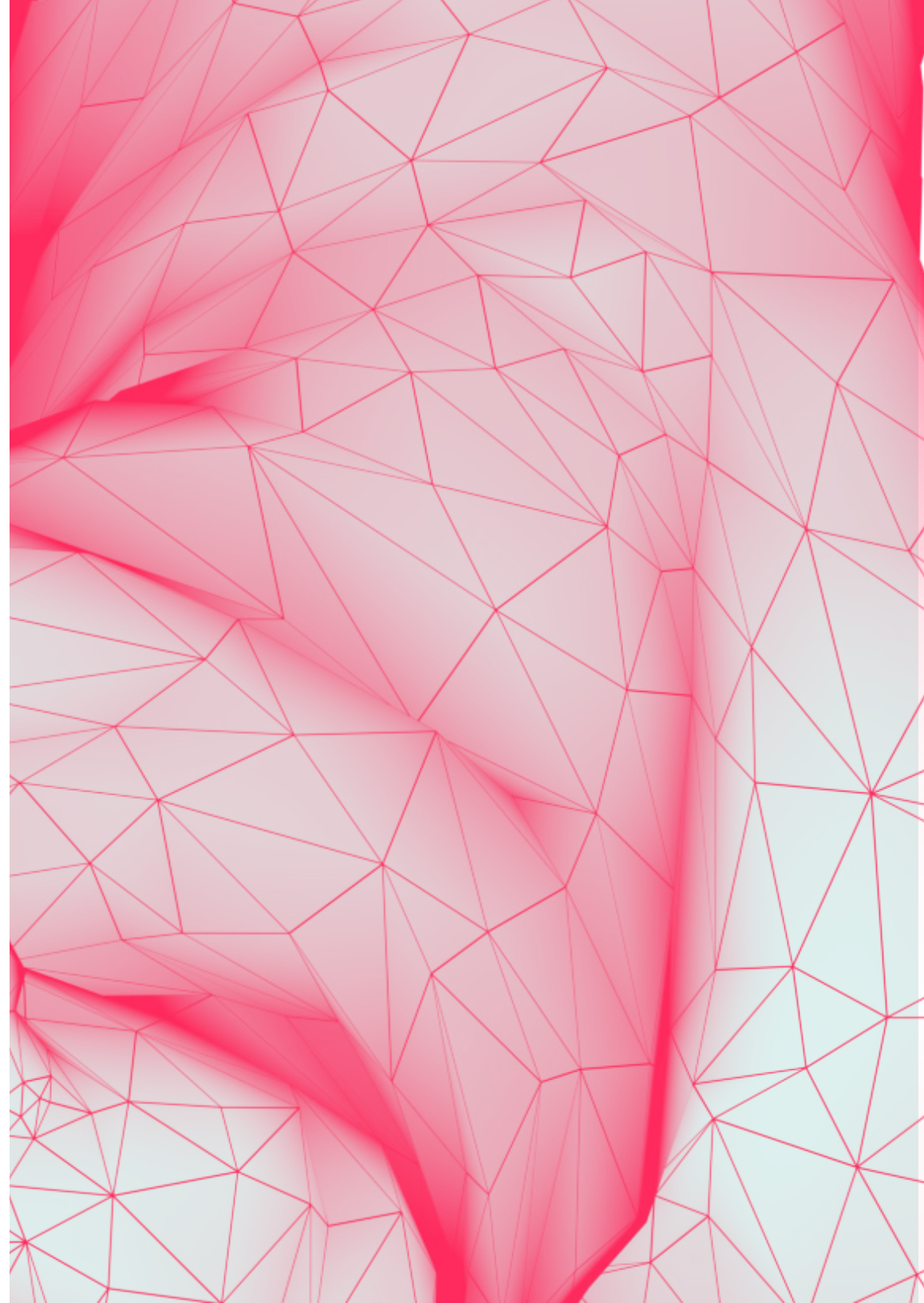
### Sandy Munro

Vice President, Pharmaceutical  
Development at Vectura



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**CREATE MEANINGFUL  
AND EXPRESSIVE  
3D VISUALS WITH REAL  
SCIENTIFIC DATA**







# FLUIDDA

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for better patient care

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