**Medical Motivation:**
Provide physicians with a better understanding of the tissue-changes underlying atrial fibrillation through computer modelling and image analysis.

### What is AFib?
- **Normal Conduction**
- **Atrial Fibrillation**

### Diagnosis
- ECG-based diagnosis
- MRI-Based Diagnosis: Images provide a clearer picture than ECGs

### Treatments
- **RX**
- Medication
- Catheter Ablation

### Patient-Specific Detection of Diseased Tissue
- **Scan Patient**
- **Segment Tissues**
- **Image Analysis**
- **Use Results to Guide Treatment**

### Simulation and Personalized Models
- Model generation
- Image-guided procedures
- Simulated effect of diseased tissue on electrical signalling

### Regionalization of Diseased Tissue
- Establish point-based correspondence between subjects
- Diseased tissue is increasingly prevalent in patients with failed treatments

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**MRI-Based Diagnosis:** Images provide a clearer picture than ECGs.