



Fast optoacoustic mesoscopy, using the skin as a **WIN**dow for **THER**apeutic monitoring of local and systemic disease

Introducing the new handheld, non-invasive Fast-Raster Scan Optoacoustic Mesoscopy (F-RSOM) device for therapy monitoring of cardiovascular diseases, diabetes and inflammatory skin conditions

Objectives

- Design encapsulated handheld clinical F-RSOM prototype
- Pre-clinical and clinical validation for disease therapy monitoring
- Develop quantitative methods for disease detection and therapy monitoring
- F-RSOM market introduction

Technology Breakthroughs

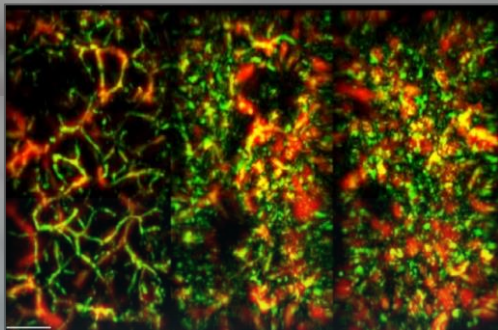
- High-resolution, label-free deep (2-3 mm) imaging
- High-contrast imaging of micro-vasculature
- Quantification of tissue oxygenation and inflammation
- Imaging micro-vessel changes in response to stimuli (endothelial function)

Clinical Need

- Quantification of micro-vasculature metrics for inflammatory skin diseases
- Treatment monitoring by topical and systemic drugs
- Quantify diabetes progression from microvascular structure
- Quantify endothelial function to monitor CVD conditions like atherosclerosis and heart failure

Outcomes

- F-RSOM for market introduction
- Novel ultrasound transducer for F-RSOM
- Quality control mechanisms for good quality data
- Portfolio of Therapy Monitoring Capabilities
- 4 peer reviewed publications



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