



Temporal sparse imaging of cardiac electric activity

A novel cardiac imaging technique that enables high-resolution, noninvasive imaging of cardiac electrical activity.

IP Status: US and EPO Patents Issued; Issued Patent No. 10,098,557 and EP3071101B1

Applications

- Imaging cardiac electrical activity
- Guiding cardiac ablation treatment

Technology Overview

Medically refractory cases of cardiac arrhythmias often require catheter ablation, a procedure that relies on precise mapping of cardiac electrical activity to identify the source of the abnormal rhythm. However, current mapping techniques are either invasive or lack the accuracy needed to fully capture the 3D electrical activity in the heart. Researchers at the University of Minnesota have developed a novel Cardia Electrical Sparse Imaging (CESI) technique that uses advanced imaging algorithms to create high-resolution, 3D maps of cardiac electrical activity. This technology has the potential to improve the treatment of cardiac arrhythmias by enabling precise, noninvasive mapping to guide catheter ablation and cardiac resynchronization therapy.

Phase of Development

TRL: 3-4

Validated through computer simulations and animal studies.

Desired Partnerships

This technology is now available for:

- License
- Sponsored research
- Co-development

Please contact our office to share your business' needs and learn more.

Researchers

- [Bin He, PhD](#) Professor, Department of Biomedical Engineering

References

1. Long Yu; Zhaoye Zhou; Bin He(2015) , <https://ieeexplore.ieee.org/document/7101293>, IEEE Transactions on Medical Imaging

Technology ID

20140122

Category

Life Sciences/Diagnostics & Imaging

Life Sciences/Human Health

Learn more

