

MICCAI SIG-Cardiac: Special Interest Group on Cardiac Imaging, Computational Modeling and Clinical Sciences

Mission

The primary mission of SIG-Cardiac is to bring together cardiologists, radiologists, computer scientists, and engineers to promote interdisciplinary collaboration. By organizing satellite events at MICCAI conferences and international workshops, SIG-Cardiac aims to:

- **Foster Interdisciplinary Collaboration:** Connect cardiologists, radiologists, computer scientists, and engineers to promote interdisciplinary collaboration.
- **Integrate Research Breakthroughs:** Facilitate the integration of emerging technologies, such as AI, computer vision, and advanced imaging techniques, into clinical practice.
- **Financial Support for Education:** Organize challenges and tutorials at MICCAI conferences to educate and train clinicians and researchers.

Objectives

- **Bridging Research and Clinical Practice:** The SIG-Cardiac will play a pivotal role in bridging the gap between cutting-edge research and clinical applications in cardiac care.
- **Contributing New Datasets, Tutorials, and Challenges:** The SIG-Cardiac will make significant contributions to the research community by providing high-quality datasets relevant to cardiac imaging and interventions.
- **Establish a Specialized Community:** The SIG-Cardiac will provide a conducive environment for members to connect with leading experts and potential collaborators, nurturing a supportive network that spans across disciplines and institutions.

2025 Activities

Online Tutorial

The SIG-Cardiac Tutorial on cardiac digital twin was held on 27th June 2025.

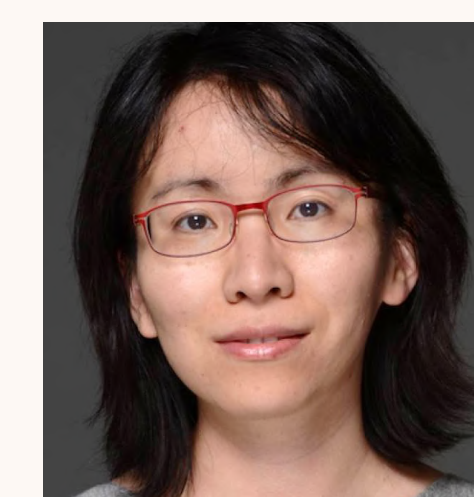


- **Digital Twins in Healthcare: Synergies of Physics and Data-driven Models for Cardiology**
- **Dr. Julia Camps**

Universitat Pompeu Fabra, Spain

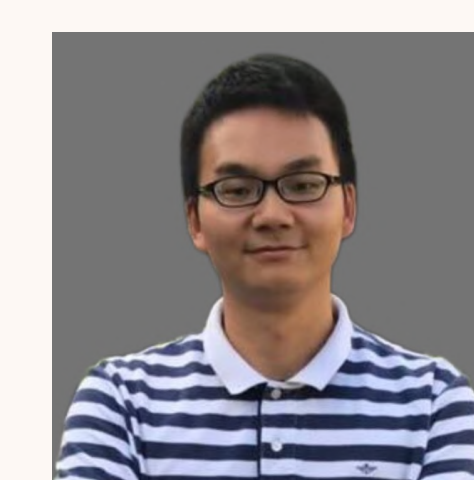
Online Seminar

Two SIG-Cardiac Online Seminars were held on 21st July and 24th Aug 2025, separately.



- **Advancing Radiology Report Generation with Large Language Models**
- **Prof. Yulan He**

King's College London, UK



- **Artificial Intelligence in Diagnosis and Treatment of Cardiovascular Diseases**
- **Prof. Xiaowei Xu**

Guangdong Provincial People's Hospital, China

Workshop on Digital Twin for Healthcare

International Workshop on Digital Twin for Healthcare (DT4H) will take place on **23 Sep 2025, from 13:30 AM to 18:00 AM in MICCAI.**

Keynote Speakers



Prof. Linwei Wang
Rochester Institute of Technology

Predictive Hybrid Digital Twins: Theory, Methods, and Applications



Dr. Mathias Unberath
Johns Hopkins University

Digital Twins for Surgical Data Science



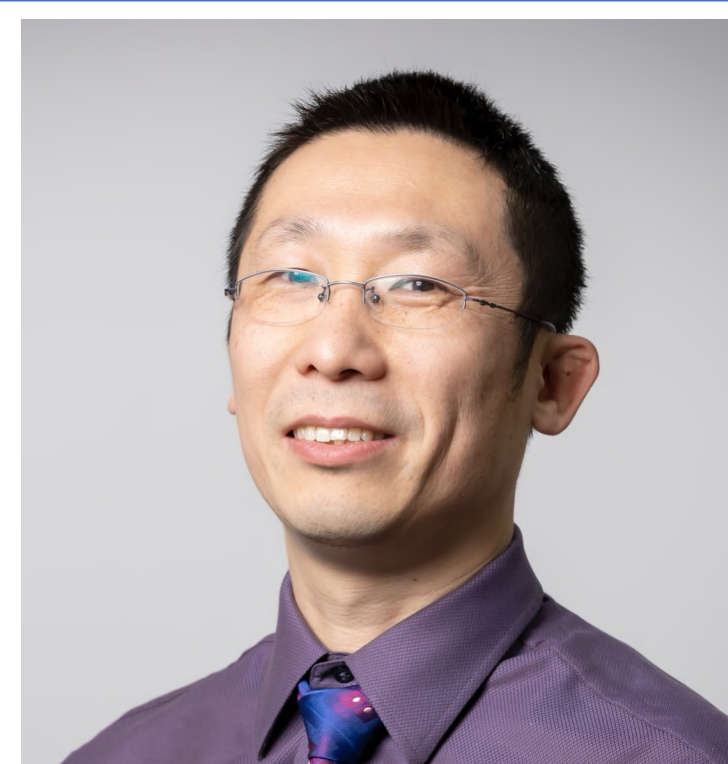
Prof. Henggui Zhang
University of Manchester

Development of the virtual heart for the study of cardiac arrhythmias

CARE 2025 Challenge

Comprehensive Analysis & computing of **REal-world** medical images (CARE2025) provides imaging data from more than 2,000 patients, especially the patients with cardiovascular diseases.

Board members



President:
Dr. YingLiang Ma



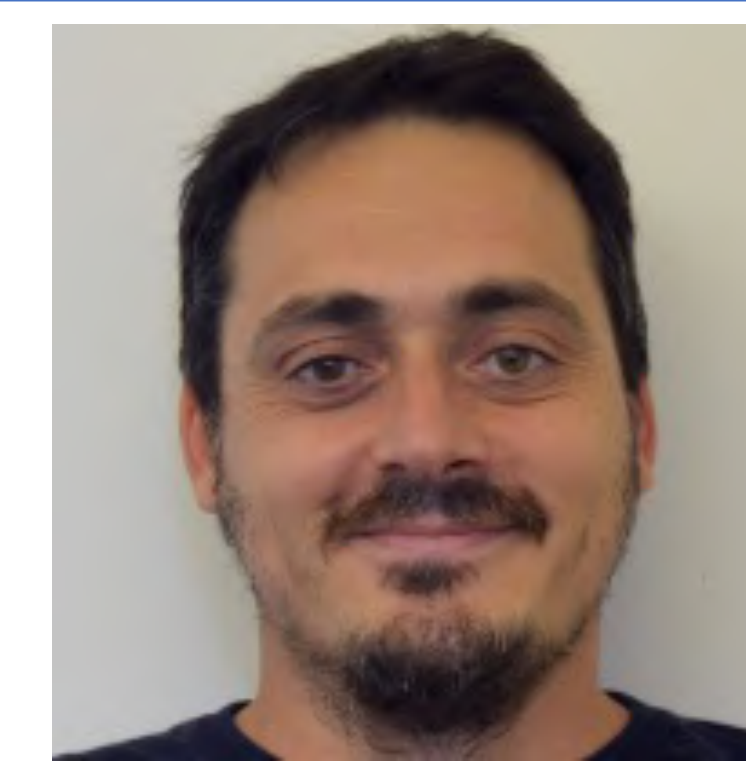
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