The AMPS Insider

An AMPS LLC Magazine

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Executive Overview

ISCE 49, Residual-attention deep learning model for atrial fibrillation detection from Holter recordings, Products News, AMPS People.

Editorial

The 49th edition of the ISCE annual conference took place for the first time in Italy in 2025 from **Sunday, March 23rd** to **Thursday, March 27th** in the village of Bardolino on the beautiful southeast shore of Lake Garda, with a record attendance of more than 160 delegates.

The meeting, which was chaired by Prof. Mary Carey (University of Rochester) and co-chaired by Prof. Claus Graff (University of Aalborg, Denmark), was an enormous success. It began with an exciting tutorial on machine learning essentials followed by eight sessions covering different aspects of computerized electrocardiology, including state of the art artificial intelligence applied to ECG, emergency cardiac care, arrhythmias in the young, screening among athletics, and centralized vs remote clinical trials.

Given the European location, a dedicated session focused on EU funding programs and Medical Device Regulation, in the

The AMPS Team at ISCE 49

presence of the honorable Dr. Marina Zanchi, Director of the European Health and Digital Executive Agency (HaDEA), and representatives of the Directorate-General for Health and Food Safety as well as other notable bodies.

The scientific program concluded with a remarkable keynote lecture on the history of Long QT Syndrome from Professor Peter J. Schwartz of the Istituto Auxologico Italiano in Milan.

AMPS was a key participant in the conference with eight registered delegates in addition to the ISCE President Fabio Badilini, as well as providing audio visual technical support, poster session logistics, and coordination with the conference hotel, in collaboration with the ISCE management company, CMA.

We continue the AMPS tradition of participation in research projects in this TAI issue, featuring one new paper published in the past quarter:

Residual-attention deep learning model for atrial fibrillation detection from Holter recordings

The abstract reads:

Background: Detecting subtle patterns of atrial fibrillation (AF) and irregularities in Holter recordings is intricate and not scalable if done manually. Artificial intelligence-based techniques can be beneficial. In fact, with the rapid advancement of AI, deep learning (DL) has demonstrated the capability to identify AF from ECGs with significant performance accuracy. However, further development and validation on larger cohorts is still needed.

Purpose: The main purpose of this study was to develop a Residual-attention DL model by considering a large cohort of 2‑lead Holter recordings.

Methods: We developed a residual DL model by collecting a large dataset of 661 Holter recordings which was labeled manually by an expert cardiologist. The DL model leveraged attention mechanisms, allowing it to capture long-range dependencies and intricate temporal relationships crucial for identifying subtle patterns indicative of AF.

The full article can be found on the [AMPS web site](#).

Products News

We are happy to announce that CER-S V4.7 was given 510(k) approval by the FDA last February.
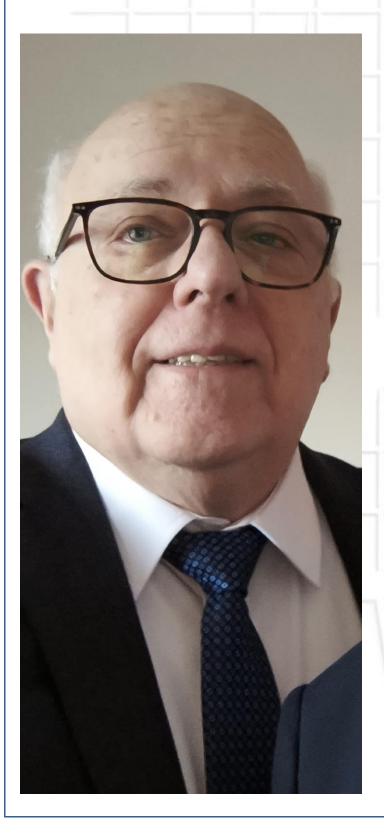
The team has progressed on:

- the development of the AMPS Cloud Gateway, or **ACG**. The first prototype is planned for the end of 2Q25.
- the development of CER-S 4.8.0 (mainly graphical improvements).
- continued development of ECGMaster, the AMPS advanced digital ECG data management system. The first prototype is now planned for 2Q25.

AMPS People

Beatriz Cosculluela holds a bachelor's degree in Electronic Engineering and a master's degree in Biomedical Engineering. Her desire to improve people's quality of life has led her to pursue a PhD at AMPS, where she will focus on developing clinically relevant Artificial Intelligence-driven solutions for continuous arrhythmia monitoring and treatment guidance using wearable devices. This PhD is part of the INSIDE-HEART consortium, a multidisciplinary Marie Curie network focused on designing and conducting early-phase validation of digital biomarkers for the diagnosis of supraventricular arrhythmias. Outside of her professional work, she enjoys practicing sports and is passionate about mountaineering and climbing, a passion that stems from having been born in the north of Spain, near the Pyrenees.

It is with deep sorrow that we announce the passing of John Flood, a dedicated and passionate technical writer, who passed away on March 8, 2025. For many years John helped the AMPS team with the production of the AMPS manuals and the proofreading of our quarterly magazine. His clear, concise, and insightful writing was much appreciated and his support will be sorely missed.