



Seminar Announcement

Organized within the course “Cognitive Computation in Physiology and Medicine”, Master Course in Biomedical Engineering, and open to all interested parties

May 21, 2026, 11.30 – 13.30, Engineering Faculty, Room B1

AI applications in electrocardiology

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Abstract: AI is everywhere and has also entered the field of electrocardiology, complementing the conventional computerized rule-based expert systems commonly used for ECG interpretation (“interpretation” rather than “diagnosis”, since diagnostic responsibility remains with the physician). In biomedical and clinical research, AI algorithms have been shown to detect patterns or clinical states beyond those recognized by conventional ECG interpretation; a simple example being biological age estimation and its related prognostic impact. However, in public health care, new algorithms can only support medical decision-making after extensive clinical validation has demonstrated that the associated diagnostic procedures and interventions improve clinical outcomes, quality of life, burden on patients, and costs.



Bio: Cees A. Swenne is an associate professor affiliated with the Cardiology Department of the Leiden University Medical Center. After studying physics and medical physics, he joined the Dutch Organization for Applied Science and Technology, and worked on computerized ECG monitoring and noninvasive continuous arterial blood pressure measurement. Later, in Leiden, he taught cardiovascular physiology and pathophysiology to students medicine and biomedical sciences and chaired the Committee for Psychometrics in Medical Education. From 2017-2022 he taught Physiological Signal Processing and Modelling in Cardiology at the Università Politecnica delle Marche, Ancona, IT. His research activities in Leiden related to electrocardiography/ vectorcardiography, neuro-cardiology, and computerized biomedical signal processing. He authored/co-authored over 300 publications in international peer-reviewed journals.

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