

Kolloquium

Biomedizinische Technik und verwandte Gebiete

Sommersemester 2014

Donnerstag, 03.07.2014, 17:00 - 18:30 Uhr

Prof. Jaakko Malmivuo

Aalto University, Finland

(Moderation: Univ.-Prof. Dr.-Ing. Dr. med. Steffen Leonhardt,
Lehrstuhl für medizinische Informationstechnik (MedIT) im Helmholtz-Institut für
Biomedizinische Technik der RWTH Aachen)

„Short History of Biomagnetism“
Theodore von Kármán Fellowship Lecture

Abstract:

Biomagnetic signals have been recorded since 1963. In the beginning of the discipline it was believed, that:

- Due to the Helmholtz theorem, the biomagnetic signals are independent of the bioelectric ones, and therefore they include as much new information as the bioelectric ones.
- Due to the high resistivity of the skull, the magnetoencephalogram, MEG, has better spatial resolution than the electroencephalogram, EEG.

We have shown that neither of these beliefs is true.

We have shown that the combined use of bioelectric and biomagnetic methods increases the diagnostic performance.

The biomagnetic instrumentation, especially that for detection of the MEG, is at least an order of magnitude more expensive than that of the corresponding bioelectric instrumentation. Therefore, applying biomagnetism shall be very carefully justified.



Veranstalter: Direktorium des Helmholtz-Instituts für Biomedizinische Technik der RWTH Aachen
Ort: Helmholtz-Institut für Biomedizinische Technik der RWTH Aachen (Seminarraum 2.70) Pauwelsstraße 20, 52074 Aachen
Koordination: Univ.- Prof. Dr.-Ing. Klaus Radermacher Lehrstuhl für Medizintechnik, RWTH Aachen
Kontakt: meditec@hia.rwth-aachen.de; Tel.: +49-(0)241-80 23870

