## **CONNECTING CARE!** INTEGRATION OF PATIENT GENERATED DATA IN CLINICAL DECISION MAKING: MYTH OR REALITY?



# **SPEAKERS**

HEARTLUNG CENTER LEIDEN

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## *Einthoven 2016:* Connecting Care! Integration of patient generated data in clinical decision making: myth or reality?

In 2016 it will be 114 years ago that Professor Einthoven published the first paper on the human electrocardiogram. The importance of his work was recognized in 1924 when he was rewarded with the Nobel Prize.

During the past 114 years the field of cardiovascular diagnosis and treatment developed rapidly and although the electrocardiogram is often still the first non-invasive diagnostic tool used, sophisticated diagnostic and treatment techniques allow the cardiologist and cardiothoracic surgeons to diagnose and treat patients in advanced stages of cardiovascular disease. A fascinating aspect of the way Einthoven acquired the electrocardiograms of patients was that, because he was not allowed to enter the Academic Hospital, they were transmitted by phone-line to his laboratory. E-health "avant la lettre"!

This year the main focus of the Einthoven meeting will be on all aspects of electronic patient data handling including the integration of advanced techniques to monitor patients outside the hospital. Although this so-called E-Health is hot and numerous initiatives are currently deployed a structured approach is often missing. The focus of the meeting is therefore "how to implement these initiatives in daily clinical practice with a strong focus on safety, efficacy, and transparency". The 2016 meeting will not only include presentations by an international faculty but will also include demonstrations of state of the art techniques to monitor and treat patients.

The Einthoven 2016 meeting will also be a farewell symposium for Enno van der Velde, who has worked for many years in the LUMC department of Cardiology as a medical physicist, and who will be retiring this November.

## Program

Chairs: Albert V.G. Bruschke and Ernst E. van der Wall





#### Albert V.G. Bruschke

Emeritus professor doctor **Albert V.G. Bruschke**, MD, PhD, is professor in Internal Medicine with special attention to cardiology. He served as head of the LUMC's Cardiology Department from 1985 until 2000.

Albert Bruschke finished medical school at Leiden University. He obtained his PhD from the University of Groningen in 1970 with his thesis entitled "the diagnostic significance of the coronary arteriogram: a study on its value in relation to other diagnostic methods". In 1985, he was inaugurated as professor in Internal Medicine with special attention to cardiology. That same year, he became head of the Department of Cardiology of the LUMC.

Bruschke has done landmark studies to the development of coronary artery disease. He attended Cleveland Clinics as a fellow, developing the technique of coronary arteriograms, before introducing this technique in The Netherlands. Albert Bruschke retired in 2000.



#### Ernst E. van der Wall

Emeritus professor doctor **Ernst E. van der Wall**, MD, PhD, is professor in Cardiology at the Leiden University Medical Center, Leiden, The Netherlands. From 2000 until 2011, he served as head of the department of Cardiology of the LUMC.

Ernst van der Wall obtained his PhD Cum Laude with his thesis entitled "Myocardial scintigraphy with I-123 labeled free fatty acids" in 1981. He was head of the Department of Cardiology from 2000 untill 2011. During his career, he has authored over 900 papers. His main research interests include non-invasive cardiac imaging.

From 2007 until 2014, Van der Wall was the director of the Netherlands Heart Institute. Currently, he is the editor-in-chief of the Netherlands Heart Journal.

## Speakers

### Martin Jan Schalij

Martin Jan Schalij, MD, PhD, is full professor in cardiology at the Leiden University Medical Center, with a chair in arrhythmias. He is furthermore specialized in interventional cardiology, quality of care and eHealth.

Professor Schalij finished medical school at Utrecht University. He obtained his PhD from Maastricht University



for his thesis entitled "Anisotropic Conduction and Ventricular Tachycardia" in 1988. In 1992 he finished his residency at Leiden University Medical Center. Since July 2011, he is head of the Department of Cardiology. He furthermore served as president of the Dutch Society of Cardiology from 2011 until 2013.

His main research interests are ICD therapy, organization of care, quality of care and eHealth. He has been responsible for the development and implementation of many healthcare pathways (Dutch: "zorgpaden"). He invented the Mission! pathway, covering the care of patients with acute myocardial infarction. This innovation dramatically improved care of those patients when it was implemented and is a classic example of his ambition to make healthcare safer, more effective and more transparent.

#### René B. van Dijk

René B. van Dijk, MD, PhD, is a cardiologist with a passion for smart use of ICT in Health Care. He started his career as intervention cardiologist, but changed to general cardiology practice in de mid-nineties. In the Martini Hospital Groningen he got the change to initiate, co-develop and implement various Disease Management Systems in Cardiology especially in Cardiac Risk Management, Heart failure and Atrial



Fibrillation. Later on, he participated in development of a Telemonitoring system for patients with Heart Failure, which could supply general hospital EPR's with data.

In 2007 he funded a private Clinic (Cavari Clinics) especially directed to further develop ICT guided multidisciplinary Health Care. He left the Martini Hospital in 2011 in order to focus more on the development of Cavari Clinics and supporting ICT solutions. A close cooperation with the Heart Lung Center Leiden was started in integration of certain ICT solutions (Telemonitoring and CardioQuest) in the EPR (EPD Vision).

In his talk today, René will show his ideas about how "real integration" of data can change Health Care for our patients and care givers.

#### Douwe E. Atsma

**Douwe E. Atsma**, MD, PhD, professor in cardiology, was trained at the Leiden University Medical Center. Since 2000 he works as an interventional cardiologist at the LUMC. In addition to his clinical work and his research on cell therapy for



cardiac patients, he has been working since 1998 on the development of IT solutions for challenges in (cardiac) health care. Specifically, he is involved in the development and implementation of Electronic Medical Record (EMR) systems for cardiac patients, eHealth initiatives, both in-hospital and mobile, as well as in the development of national registries of cardiac disease and interventions for monitoring the quality of care for cardiac patients.

#### Enrico G. Caiani

**Enrico G. Caiani**, MD, PhD, is professor of eHealth and Image Processing at Politecnico di Milano, Italy, where he completed his Master in Electronic Engineering (1996) and his PhD in Biomedical Engineering (2000).

Since 2014 he is Associate Professor at the Dpt. of Electronics, Information and Biomedical Engineering at Politecnico. In 2002, he received the Rosanna Degani Young Investigator Award (Computing in Cardiology Society and in 2007 the A.E. Weyman Young Investigator Finalist Award (American Society of Echocardiography).



His main research interests include eHealth solutions and mHealth applications in the field of cardiology, as well as cardiac image processing and space physiology. In the last two years he was part of the program committee of several eHealth conferences, as well as invited speaker on eHealth related talks. Currently, he serves as Chairperson (16-18) for the e-Cardiology Working Group of the European Society of Cardiology (ESC). He is member of the eHealth Unit at the European Heart Agency – ESC, and he represents the ESC at the eHealth Stakeholders Group of the European Commission in Brussels.

#### **Roderick W. Treskes**

Roderick W. Treskes is a PhD-Fellow at the department of Cardiology of the Leiden University Medical Center. He graduated from Murmellius Gymnasium in Alkmaar (The Netherlands) and obtained his Bachelor degree in Medicine with honours from Leiden University Medical Center in 2013. He was offered to commence his PhD-fellowship at the age of only 21, prior to his clinical rotations. Roderick



started this PhD-tract under the supervision of Martin Jan Schalij and Enno van der Velde in January 2015 and has a focus on the implementation of e-Health solution within Clinical Cardiology. He is also very interested in the economic implications of eHealth and includes this in his research. Enno van der Velde will continue as Roderick's co-thesis supervisor after his retirement.

Current projects include 'The Box', during which self-monitoring in patients postmyocardial infarction is stimulated and evaluated. He will elaborate more on this specific project during today's session. Roderick has previously presented his work at several international conferences and has most recently presented 'The Box' during the 2016 international e-Cardiology Conference in Berlin (Germany). In addition, Roderick has been awarded the Young Investigators Award at the 2014 STAFF Conference in Boston (U.S.A).

#### Hugo Saner

Hugo Saner, MD, PhD, is professor of medicine at the University of Bern and Director of Cardiovascular Prevention and Rehabilitation at the Swiss Cardiovascular Centre, Bern University Hospital, Switzerland.

In the years 2003 to 2007, he was Editor in Chief of the European Journal of Cardiovascular Prevention and Rehabilitation. In addition, he was President European Association for Cardiovascular Prevention and Rehabilitation EACPR from 2006 to 2008.

Since 2012, he has a Chair for Preventive and Acute Cardiology at the I.M. Sechenov Fist Moscow State Medical University in Russia and became an Honorary Member of the National Russian Society for Cardiovascular Prevention and Rehabilitation. His actual position is Senior Consultant and Research Associate at the University Clinics for Cardiology and Research Associate at the ARTORG Center, University of Bern (Switzerland). He founded the European Congress on eCardiology and eHealth in the year 2011 and since that year, he is acting as Congress Director of the European Congress on eCardiology and eHealth





#### Lieselot van Erven

Lieselot van Erven, MD, PhD, is a cardiologist and senior staff member at the Leiden University Medical Center. Her areas of expertise are arrhythmias and device therapy. She is mainly active in all device related activities, including extractions. Lieselot van Erven obtained her degree in Medicine from Erasmus University in Rotterdam in 1988. She obtained her PhD in experimental cardiology from the

University Hospital Utrecht in 1992 with her thesis entitled "Arterial wall injury, arterial wall healing and restenosis. An experimental study under the supervision of Prof. dr C. Borst (University Hospital Utrecht) en Prof. C.C. Haudenschild (Mallory Institute of Pathology, Boston University, Boston, VS). After this, she continued as a cardiology resident at the HagaZiekenhuis in the Hague and the Leiden University Medical Center, she completed her specialization in 1998.

She is a member of the Netherlands Heart Rhythm Association (NHRA) and its national cardiac implantable device committee, in which she is responsible for national policy in device safety issues. She has previously been involved in the development of several guidelines concerning the quality of care in device patients. Her most recent projects include the evaluation of appropriate care for elderly patients in cardiology.



#### Niels H. Chavannes

**Niels H. Chavannes**, MD, PhD, is full professor in Primary Care Medicine at the Leiden University Medical Center, Leiden, The Netherlands, with a chair in eHealth applications in disease management.

Professor Chavannes graduated in Medicine at Maastricht University in 1998. He combined his specialization as a Family Physician (2003) with several diagnostic and therapeutic studies in primary care, resulting in his 2005 PhD thesis: "Tracking and treating COPD in Primary Care: An integrated approach to diagnosis and therapy". He is the Head of Research at the Department of Primary Care at Leiden

University Medical Center.

His main research interests are chronic disease management, eHealth applicability, therapy adherence and smoking cessation strategies. Apart from his work at the Leiden University Medical Center, he works as a part-time Family Physician in his residence Zeist, The Netherlands, as Vice-Chair of the Dutch Asthma and COPD Advisory Group, as National Advisor of the Dutch Action Programme on Chronic Lung Diseases and as Visiting Professor at Fudan University in Shanghai, China. He is Associate Editor for several Scientific Journals.

#### Enno T. van der Velde

Enno T. van der Velde, MSEE, PhD, received a BSc degree in electrical engineering at the Technical University Delft, and his master degree (MSEE) in biomedical engineering at the Technical University Twente. After receiving his MSEE, he started his research career in the Clinical Physiology Laboratory at the Leiden University Medical Center (LUMC), and wrote a PhD thesis entitled: "Ventricular Pressure-Volume Relations and Loading Conditions in Vivo".

After his PhD study, he was asked by the head of the department of Cardiology at the LUMC to become head of the technical support group at the department of Cardiology. A few years later, Enno obtained the official registration as Medical Physicist, and has since then been responsible for all matters related to medical equipment and IT (development and support) in the department. With his team he was responsible for the design and implementation (in the nineties) of one of the first Cardiology Information Systems (EPD-Vision). Next to his appointment at the LUMC, in 2009 Enno became IT coordinator at the Netherlands Cardiovascular Data Registration (NCDR) organization.

Enno van der Velde has authored more than 100 publications; he was, and will continue to be, involved in a number of committees and activities of the European Society of Cardiology (ESC), such as member of the eCommunications Committee, and recently became member of the eHealth Strategy Implementation Group of the ESC. Enno is also long Fellow of the ESC (FESC).

His main interests are: data exchange between medical systems and clinical information systems, standardization in Healthcare, and eHealth / mHealth applications to improve patient care.

This November, he will be retiring from the LUMC after having worked there for almost 40 years. Today, Enno van der Velde will present the Einthoven Lecture, entitled "Back tot he Future".



#### Walking dinner by:

### World Fusion Cuisine

World Fusion Cuisine is an "up and coming" caterer which caters to everyone's culinary desire. Providing a broad spectrum of food-styles ranging from street foods to deluxe menu's, this caterer can do it all. Additionally, World Fusion Cuisine organizes cooking classes, corporate events and even provides a personal chef for exclusive dinners. Be sure to keep an eye out for WFC.

#### www.worldfusioncuisine.nl



### Music by: An apple a day

Starting as a college band during their medical study, this fresh band of swinging doctors has taken Leiden by surprise! Playing at large venues like the Stadsgehoorzaal and entertaining large crowds is not uncommon for these young physicians. By playing a wide range of cover songs, this band is sure to please everyone.

#### www.anapple.nl



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