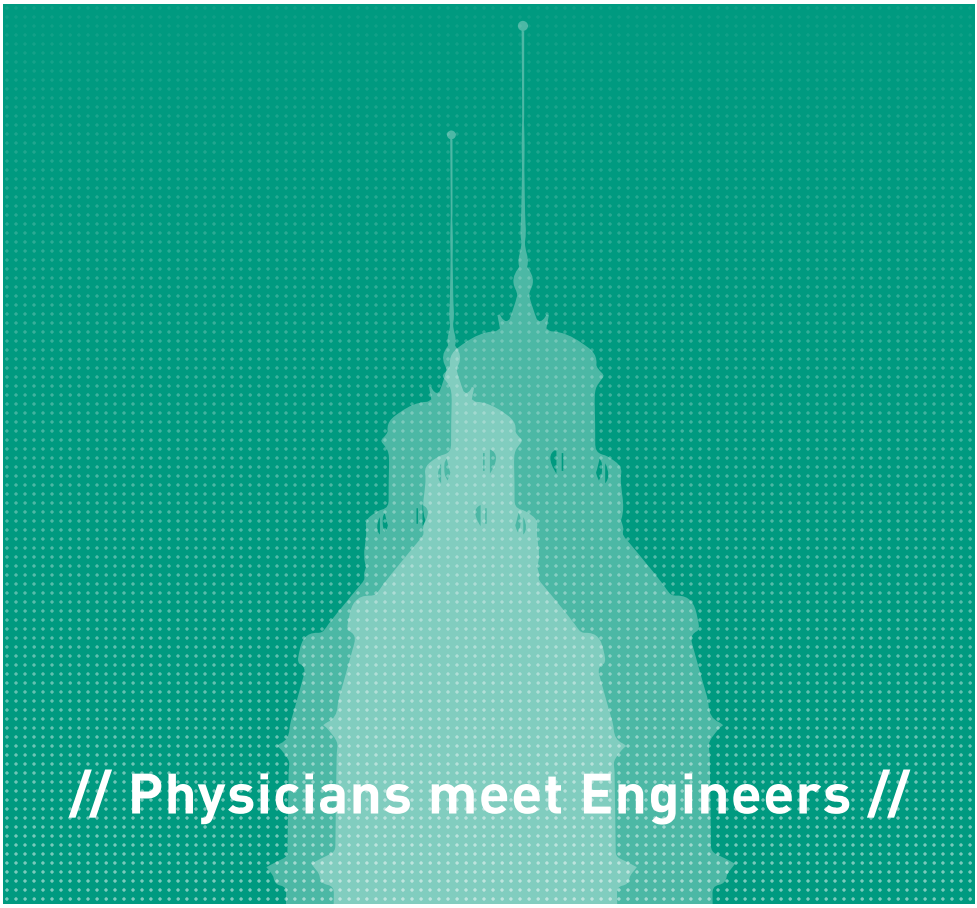
Atrial Signals 2015

quantitative analysis and diagnostics, predictive and therapeutic values

KARLSRUHE, GERMANY · 22.–24. OCTOBER 2015



Städtisches Klinikum Karlsruhe

KIT
Karlsruher Institut für Technologie

FOREWORD

Dear colleagues,

Research and development has brought many significant advances to electrophysiological examinations of the atria during the last years. Electroanatomical mapping systems reduce radiation, multichannel catheters allow for simultaneous high density mapping, and computer modeling enhances comprehension of signal generation and the mechanisms of arrhythmias. But despite this, atrial fibrillation (AFib) still poses a major challenge for clinicians.

A joint collaboration of all experts - clinicians and engineers - has the best chance of coping with this challenge. This is the goal of our workshop - bringing together the leading experts from these areas, and to provide a stage for open discussion.

Topics of the workshop include:

» Mapping of arrhythmias in clincial practice
» Mechanisms of AFib initiation and maintenance
» Signal analysis from engineers‘ and clinicians‘ perspective
» Strategies for ablation
» Atrial modeling to enhance comprehension of arrhythmias

Distinguished experts are invited to participate as speakers, and as panelists, in order to find common insights, debate theories, and discuss promising and controversial approaches.

The workshop is organized by the collaboration of the Institute of Biomedical Engineering (IBT) and the Städtisches Klinikum Karlsruhe, two renown institutions in the field of atrial modeling, signal processing and medical care. The Institute of Biomedical Engineering is part of the Karlsruhe Institute of Technology (KIT), a well-known University specializing in engineering. For over 15 years, research in cardiac modeling and biomedical signal processing has been the focus of IBT, making it a renowned member of the international research community. The cooperation with the Städtisches Klinikum Karlsruhe, a clinical partner for nearly a decade, has led to dozens of conference contributions and journal articles, addressing issues of engineering interest and clinical importance.

The beautiful city of Karlsruhe will form the setting for the meeting, which takes place in the year of its 300th birthday. Karlsruhe can be reached easily by train and international airports (Frankfurt a. M. is only one hour by direct train connection away!).

Looking forward to meeting you in Karlsruhe,

Prof. Dr. med. Claus Schmitt

Prof. Dr. rer. nat. Olaf Dössel

REGISTRATION

General information

The workshop "Atrial Signals 2015" addresses a broad expert audience of various backgrounds with interest in AFib in different sessions. All oral presentations will be given by invited speakers and intensively discussed by named experts. There is possibility for participants to present own contributions in a poster session on Friday.

Registration for the scientific program (Thursday & Friday)

Registration is required to participate in the scientific sessions on Thursday and Friday. Registration fee is 250 Euro after August 1st. There is no student discount.

Registration for the medical program (Saturday)

Participation in the medical program on Saturday is free of charge. However, pre-registration is highly appreciated.

Registration for the engineering program (Saturday)

Participation in clinical engineering program on Saturday is open for registered participants.

Process of registration

Registration can be done online via the conference website. Please note that availability is limited.

Questions related to registration

Please contact Mrs. Treiber for assistance regarding registration:

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Event-Services

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www.mcon-mannheim.de

Register here:

www.atrial-signals.kit.edu

PROGRAM

Thursday, 22nd October 2015

G	Block 1: What is driving atrial fibrillation (AFib)?
08:00 – 08:30 h	» **Catheter ablation of AFib – Where are we now?** Claus Schmitt
08:30 – 09:00 h	» **What can animal models teach us about the initiation and perpetuation of AFib** Ulrich Schotten
09:00 – 09:30 h	» **Ionic mechanisms of AFib** Reza Wakili
09:30 – 09:50 h	Coffee Break
09:50 – 10:10 h	» **What can we learn from computer modeling of AFib?** Olaf Dössel
10:10 – 10:30 h	» **Role of sympathetic innervation in AFib** Sabine Ernst
10:30 – 10:50 h	» **Fibroblasts and Cardiac Electrophysiology** Peter Kohl
10:50 – 11:30 h Panel discussion	**Which mechanisms are crucial and which models are suitable to solve the riddle of AFib?** **Moderator: Claus Schmitt** · P1: Ulrich Schotten · P2: Olaf Dössel P3: Martin Borggrefe · P4: Reza Wakili · P5: Sabine Ernst · P6: Peter Kohl
11:30 – 13:00 h	Lunch Break

G	Block 2: Mapping Techniques
13:00 – 13:20 h	» **One fits all? Catheters and their Capabilities to characterize AFib** Thomas Arentz
13:20 – 13:40 h	» **Mapping Techniques in AFib** Julian Chun
13:40 – 14:00 h	» **Recording Electrograms without losing information** Meir Bar-Tal
14:00 – 14:20 h	» **Hunting for ghosts: Pitfalls and potential misinterpretations of atrial electrograms** Nick Linton
14:20 – 15:00 h Panel discussion	**What are the essentials in recording of stable and unstable activation patterns of AFib?** **Moderator: Thomas Arentz** · P1: Meir Bar-Tal · P2: Nick Linton · P3: Jürgen Schreieck P4: Julian Chun
15:00 – 15:20 h	Coffee Break

G	Block 3: Substrate mapping and CFAE
15:20 – 15:40 h	» **Analysis and impact of atrial fibrosis on AFib** Nassir Marrouche
15:40 – 16:00 h	» **What precisely is a „complex fractionated electrogram"? And what does it really tell us?** Koonlawee Nademanee
16:00 – 16:20 h	» **Quantitative Analysis and Characterization of CFAE. How does it help for Ablation?** Edward J. Ciaccio
16:20 – 16:40 h	Coffee Break
16:40 – 17:00 h	» **Seeing is knowing – Analysis and Visualization of Atrial Signals** Tobias Oesterlein
17:00 – 17:20 h	» **Are CFAEs more than reading tea leaves?** Isabel Deisenhofer
17:20 – 18:30 h Panel discussion	**How can we define an AFib Substrate and what are CFAEs all about? What's based on Evidence?** **Moderator: Isabel Deisenhofer** · P1: Nassir Marouche · P2: Koonlawee Nademanee P3: Edward J. Ciaccio · P4: Tobias Oesterlein · P5: Heidi Estner

Friday, 23rd October 2015

G	Block 4: Rotors and spiral activations
08:00 – 08:30 h	» **So far I could not find a single Rotor during longstanding human AFib** Maurits Allessie
08:30 – 09:00 h	» **The Rotor Revolution? – How to modify the Substrate** Hans Kottkamp
09:00 – 09:30 h	» **Are Rotors driving AFib? Is every AFib driven by Rotors? What's based on Evidence?** Sanjiv Narayan
09:30 – 09:50 h	Coffee Break
09:50 – 10:20 h	» **Localization and Ablation of Rotors – is this the solution to all problems?** Michel Haissaguerre
10:20 – 10:40 h	» **Invasive and noninvasive Mapping – are the patterns related?** Thomas Deneke
10:40 – 11:00 h	» **Challenges in detection and visualization of Rotors and unstable conduction Patterns** Pawel Kuklik
11:00 – 12:00 h Panel discussion	**How to detect Rotors? Is every Rotor driving AFib?** **Moderator: Armin Luik** · P1: Maurtis Allessie · P2: Hans Kottkamp · P3: Sanjiv Narayan P4: Michel Haissaguerre · P5: Thomas Deneke · P6: Pawel Kuklik · P7: Thomas Rostock P8: Omer Berenfeld
12:00 – 13:30 h	Lunch Break
13:30 – 15:00 h	**Poster Session**

G	Block 5: What do we have, what do we need?
15:00 – 15:20 h	» **Is AFib ablation necessary? – Impact on Prognosis and future Studies** Douglas Packer
15:20 – 15:40 h	» **Optical-Electrical Mapping in AFib: Developments, Strengths and Pitfalls** Omer Berenfeld
15:40 – 16:00 h	» **Welcome to 2020: Catheter Ablation guided by Computer Models – fiction or real life?** Olaf Dössel
16:00 – 16:20 h	» **Visions of Imaging and Mapping** Rob MacLeod
16:20 – 16:40 h	» **Wishes and Desire – Hardware and Software** Armin Luik
16:40 – 17:15 h Panel discussion	**Which Studies can verify current Theories? What do we need for that?** **Moderator: Olaf Dössel** · P1: Douglas Packer · P2: Armin Luik · P3: Amir Jadidi P4: Omer Berenfeld · P5: Dierk Thomas · P6: Reza Wakili · P7: Rob MacLeod

Saturday, 24th October 2015

FOCUS SESSION: KARDIOLOGIE

G	Session 1: Antikoagulation Vorsitzende: Claus Schmitt, Rainer Zimmermann
08:30 – 09:00 h	» **ASS bei Vorhofflimmern: Feigenblatt für den Arzt, Balsam für den Patienten?** Bernd Waldecker
09:00 – 09:30 h	» **Neue direkte orale Antikoagulantien (DOAK): Hat Marcumar ausgedient?** Wolfgang Schöls
09:30 – 10:00 h	» **Vorhofflimmern und akutes Koronarsyndrom** Meinrad Gawaz
10:00 – 10:30 h	Kaffeepause

G	Session 2: Vorhofflimmern Vorsitzende: Michael Schneider, Matthias Merkel
10:30 – 11:00 h	» **Antiarrhythmika bei Vorhofflimmern: gibt es was Neues?** Christian Wolpert
11:00 – 11:30 h	» **Vorhofohrverschluss (LAA Occluder): Alternative zur Antikoagulation?** Juraj Melichercik
11:30 – 12:00 h	» **Vorhofflimmerablation: Welche Technik ist zu favorisieren?** Armin Luik
12:00 – 13:30 h	Mittagessen

G	Session 3: Antikoagulation Vorsitzende: Claus Schmitt, Armin Luik
13:30 – 14:00 h	» **Einsatz von Betablocker: Hat sich was geändert?** Ralf Zahn
14:00 – 14:30 h	» **Digitalis: Ja oder nein? oder doch?** Rainer Wondraschek
14:30 – 15:00 h	» **Schlaganfall und Vorhofflimmern: Was bringen die implantierbaren Event-Rekorder?** Martin Karch
15:00 – 15:30 h	» **Metabolisches Syndrom und Vorhofflimmern: PCSK9-Antikörpertherapie zur Lipidsenkung** Florian Willecke

FOCUS SESSION: MEDICAL ENGINEERING

H	Session 1: Bridging the gap between computational modeling and clinical data
08:30 – 08:50 h	» **Simplify and speed up! But are we still realistic?** Vincent Jacquemet
08:50 – 09:10 h	» **In-silico drug testing for AFib – always 5 years from now?** Alfonso Bueno-Orovio
09:10 – 09:30 h	» **Registration in the EP-lab in real time** Kawal Rhode
09:30 – 09:50 h	» **How many ionic models do we need for modeling of the atria?** Molly Maleckar
09:50 – 10:10 h	» **How far are we from patient-specific atrial modeling?** Gunnar Seemann
10:10 – 10:40 h Panel discussion	**Requirements and Possibilities in modeling of Clinical Data?** **Moderator: Gunnar Seemann** · P1: Vincent Jacquemet · P2: Alfonso Bueno-Orovio P3: Molly Maleckar · P4: Kawal Rhode
10:40 – 11:00 h	Coffee Break

H	Session 2: Uncovering all what's hidden in biosignals of the atria
11:00 – 11:20 h	» **Advanced processing of atrial intracardiac signals – get more out of the data** Juan Pablo Martinez
11:20 – 11:40 h	» **HR and Blood Pressure Variability during AFib** Luca Mainardi
11:40 – 12:00 h	» **Extracting Atrial Information from Surface Signals of poor Quality** Leif Sörnmo
12:00 – 12:20 h	» **Targeted ablation of AFib: what can intracardiac signal analysis teach us?** Flavia Ravelli
12:20 – 13:00 h Panel discussion	**Challenges and Goals in processing of Atrial Electric Signals** **Moderator: Olaf Dössel** · P1: Juan Pablo Martinez · P2: Luca Mainardi P3: Leif Sörnmo · P4: Flavia Ravelli

Ⓖ **Gartensaal** Schloss Karlsruhe, Schlossbezirk 10, 76131 Karlsruhe

Ⓗ **HECTOR Hörsaal** Schlossplatz 19, 76131 Karlsruhe

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CONGRESS VENUE

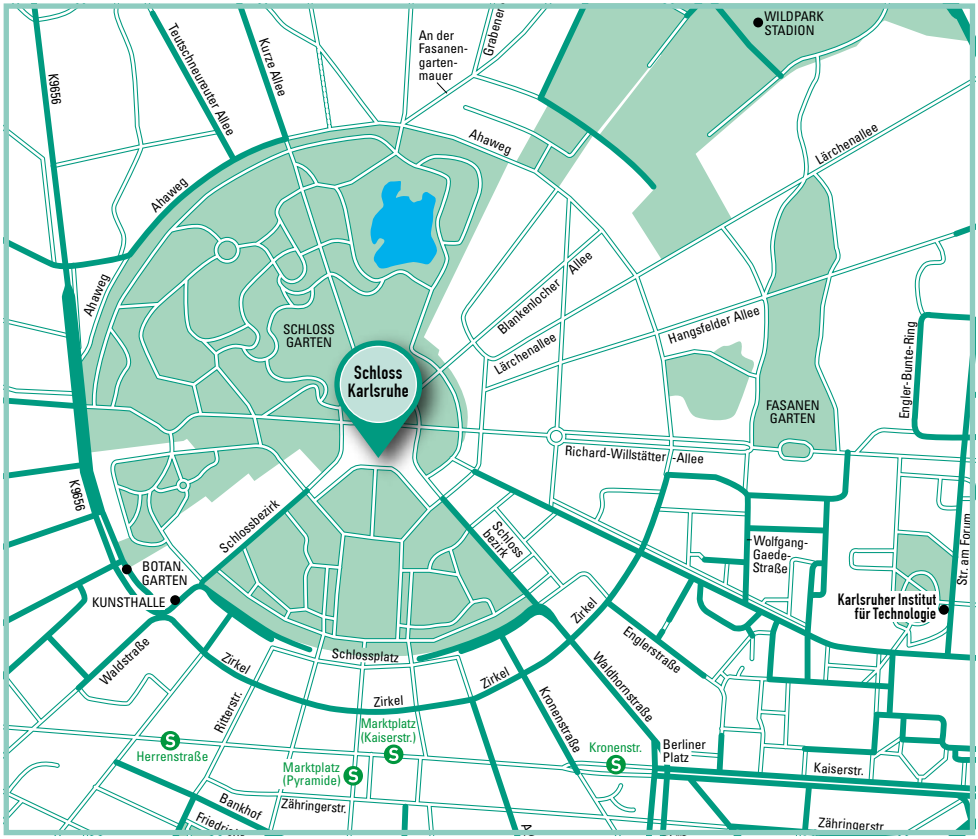
The workshop Atrial Signals 2015 will take place in the most prestigious part of the Karlsruhe Palace, the Gartensaal. Built in 1715 as residence of the Margrave, the Palace served for 200 years as the seat of government of the Baden dynasty. Since 1921, the former residence houses the Baden State Museum.

The Palace is located at the northern end of the city center, linking the downtown area and adjecent recreational area Hartwald.

» Schloss Karlsruhe, Schlossbezirk 10, 76131 Karlsruhe

The focus session of Engineering on Saturday will take place in the adjecent HECTOR auditorium, which is the central lecture hall of the KIT International Department.

» HECTOR Hörsaal, Schlossplatz 19, 76131 Karlsruhe



Source: Städtisches Klinikum Karlsruhe gGmbH, Moltkestrasse 90, 76133 Karlsruhe