

# PROGRAM Thursday, 23<sup>rd</sup> September 2021

07:30 – 08:00 h » **Early rhythm control therapy and the rediscovered benefits of restoring and maintaining sinus rhythm** Paulus Kirchhof  
Opening Lecture

## T Block 1: Atrial arrhythmogenic substrates – the microscopic point of view – ion channels and electrophysiological remodeling

08:00 – 08:20 h » **Ion channels in cardiac non-myocytes – implications for atrial fibrillation** Ursula Ravens

08:20 – 08:40 h » **Fibrosis – one word for many different entities?** Vadim Fedorov

08:40 – 09:00 h » **Can substrate remodeling be stopped or reversed?** Dobromir Dobrev

09:00 – 09:20 h » **Remodeling of atrial tissue** Uli Schotten

09:20 – 09:40 h » **Computer modeling of the arrhythmogenic substrate** Blanca Rodriguez

09:40 – 10:00 h **Genesis of the substrate for atrial fibrillation (AFib)? How many types of fibrosis do we need to understand AFib?**  
Panel discussion  
**Chair: Claus Schmitt** · P1: Ursula Ravens · P2: Vadim Fedorov · P3: Dobromir Dobrev · P4: Uli Schotten · P5: Blanca Rodriguez · P6: Paulus Kirchhof

10:00 – 10:30 h Coffee break

## T Block 2: Atrial signals – novel technologies

10:30 – 10:45 h » **Coherence mapping, cycle length mapping, and beyond** (Biosense Webster) Meir BarTal

10:45 – 11:00 h » **HD grid, omnipolar lead, and beyond** (Abbott) Kim Steven, D. Curtis Deno

11:00 – 11:15 h » **LUMIPOINT and beyond** (Boston Scientific) Tobias Oesterlein

11:15 – 11:30 h » **Mapping the source of the cardiac potential** (Acutus Medical, Inc.) Christoph Scharf

11:30 – 11:40 h » **KODEX-EPD** (Philips) Marianna Meo

11:40 – 11:50 h » **Electrographic flow imaging** (Ablacon) Philip Haeusser

11:50 – 12:00 h » **ECG imaging for the atria** (CORIFY Care SL) Andreu Climent

12:00 – 12:10 h » **ECG imaging for the atria** (EP Solutions SA) Vitaly Kalinin

12:10 – 12:30 h **Which features of EP systems do we really need? Harmonization of methods and interoperability? What is the main contribution of ECG imaging?**  
Panel discussion  
**Chair: Olaf Dössel** - All speakers will be ready for a lively discussion with the entire audience.

12:30 – 14:00 h Lunch and poster presentation

## T Block 3: Is multimodal mapping the key to success – how can we enhance LAT and voltage maps?

14:00 – 14:15 h » **Electrode size, shape, and configuration, unipolar or bipolar – what do we see and what do we need to see?** Laura Unger

14:15 – 14:30 h » **Quantitative analysis of electrograms: uncertainties in LAT and conduction velocity** Caroline Roney

14:30 – 14:45 h » **Impedance mapping – what do we learn about the substrate?** Armin Luik

14:45 – 15:05 h » **Low voltage/slow conduction/high fractionation – always going hand in hand?** Gabriel Latcu

15:05 – 15:25 h » **Diagnosis of fibrotic left atrial cardiomyopathy: 12-lead-ECG vs. ECG-imaging vs. LGE-MRI vs. echocardiography** Amir Jadidi

15:25 – 15:45 h » **LGE-MRI – how can we get the best out of it?** Till Althoff

15:45 – 16:00 h **Do we finally have to look at 5 maps simultaneously? What is the main contribution of LGE-MRI?**  
Panel discussion  
**Chair: Armin Luik** · P1: Laura Unger · P2: Caroline Roney · P3: Gabriel Latcu · P4: Amir Jadidi · P5: Till Althoff · P6: Heidi Estner

16:00 – 16:30 h Coffee break

16:30 – 17:00 h **The evolution of atrial fibrillation ablation: past and future**  
Keynote lecture  
Michel Haïssaguerre

## T Block 4: Depolarization patterns of atypical AFlut and AFib

17:00 – 17:20 h » **Which depolarization patterns are virtual, which ones are real?** Natasja de Groot

17:20 – 17:40 h » **Optimizing mapping strategies for identifying arrhythmogenic foci** Elad Anter

17:40 – 18:00 h » **Areas of high dispersion – are they the drivers of AFib?** Julien Seitz

18:00 – 18:20 h **What do AFib depolarization patterns tell us about the substrate? Are depolarization patterns during AFib really characteristic or just random observations of a chaotic system?**  
Panel discussion  
**Chair: Natasja de Groot** · P1: Michel Haïssaguerre · P2: Elad Anter · P3: Julien Seitz · P4: Martin Borggrefe · P5: José Millet

18:20 h **Opening ceremony** (food and drinks included)

# PROGRAM Friday, 24<sup>th</sup> September 2021

<b>T</b>	<b>Block 5A: The best mapping strategy</b>
08:00 – 08:20 h	» <b>2019 APHRS expert consensus statement on three-dimensional mapping systems</b> Roland Tilz
08:20 – 08:40 h	» <b>Which mapping strategy fits which patient?</b> Philipp Sommer
08:40 – 09:00 h	» <b>Endo- and epicardial mapping</b> Thomas Deneke
09:00 – 09:20 h	» <b>Mapping in sinus rhythm (SR), in paced rhythm, or during the arrhythmia?</b> Reza Wakili
09:20 – 09:45 h Panel discussion	<b>Mapping in SR allows for sequential mapping but we do not see the problem the patient really has. Mapping during AFib only allows for simultaneous acquisition in a small area. What do we really need? How can we distinguish a functional block from a permanent block?</b> Chair: Philipp Sommer · P1: Reza Wakili · P2: Thomas Deneke · P3: Christian Wolpert · P4: Martin Karch
<b>T</b>	<b>Block 5B: European networks training the next generation of AFib and AFLut researchers</b> Chair: Olaf Dössel
09:45 – 10:00 h	» <b>The Marie Skłodowska Curie ITN “MyAtria”</b> Luca Mainardi
10:00 – 10:15 h	» <b>The Marie Skłodowska Curie ITN “PersonalizeAF”</b> Maria Guillem
10:15 – 11:05 h	Coffee break
<b>T</b>	<b>Block 6: Creating the perfect ablation lesion</b>
11:05 – 11:25 h	» <b>Cryo-ablation: when is it best?</b> Arctic Front Advance™ vs POLARx™ Sing-Chien Yap
11:25 – 11:45 h	» <b>High power short duration for the atria: is it really better?</b> Marc Kottmaier
11:45 – 12:05 h	» <b>Electroporation/Pulsed field ablation – what’s the advantage?</b> Peter Loh
12:05 – 12:25 h	» <b>Monitoring the creation of the ablation scar</b> Sabine Ernst
12:25 – 12:45 h Panel discussion	<b>What is mandatory and what is nice to have? Which ablation technology should be used and when?</b> Chair: Sabine Ernst · P1: Sing-Chien Yap · P2: Marc Kottmaier · P3: Peter Loh · P4: Jürgen Schreieck
12:45 – 13:45 h	Lunch and poster presentation
<b>T</b>	<b>Best Poster Awards</b> Chair: Axel Loewe
13:45 – 13:55 h	» <b>Analysis of unipolar electrogram eigenvalue dispersion for the detection of atrial fibrosis</b> Jennifer Riccio
13:55 – 14:05 h	» <b>Influence of wave-front and atrial tissue properties on eikonal model simulations</b> Cristian Barrios
14:05 – 14:15 h	» <b>Spatial distribution of repetitive electrograms identifies a spectrum of organization from atrial fibrillation to flutter</b> Prasanth Ganesan

<b>T</b>	<b>Block 7: The best ablation targets/strategy for AFib</b>
14:20 – 14:40 h	» <b>Extrapulmonary targets: beyond PVI</b> Francis Marchlinski
14:40 – 15:00 h	» <b>Substrate mapping in patients with persistent AFib: comparison of LGE-MRI to electroanatomical mapping</b> Thomas Arentz
15:00 – 15:20 h	» <b>New approaches to identify repetitive rotational and focal sites in AFib</b> Sanjiv Narayan
15:20 – 15:40 h	» <b>Predicting potential AFLut patterns using computational modeling</b> Axel Loewe
15:40 – 16:00 h Panel discussion	<b>Which patients require personalized treatment strategies? Should we abolish the “one fits all” thinking? How can we achieve both: stop AFLut/AFib and prevent AFLut/AFib from recurring? Single bullet hole at the right place, shot gun ablation, or box lesion?</b> Chair: Claus Schmitt · P1: Francis Marchlinski · P2: Thomas Arentz · P3: Sanjiv Narayan · P4: Axel Loewe · P5: Michael Schneider
16:00 – 16:30 h	Coffee break
<b>T</b>	<b>Block 8: The future of diagnosis and therapy of AFLut and AFib</b>
16:30 – 16:50 h	» <b>The hypes and flops of the past 20 years – lessons learnt?</b> Claus Schmitt
16:50 – 17:10 h	» <b>Individualized concepts of substrate modification for AFib</b> Isabel Deisenhofer
17:10 – 17:30 h	» <b>Ablation guided by computer modeling – fiction or future?</b> Olaf Dössel
17:30 – 17:50 h	» <b>“Gaps in evidence” outlined in the 2020 ESC guidelines</b> Gerhard Hindricks
17:50 – 18:10 h Panel discussion	<b>Where do we want to go? What do we have to do to reach the goal?</b> Chair: Isabel Deisenhofer · P1: Claus Schmitt · P2: Olaf Dössel · P3: Gerhard Hindricks · P4: Bernhard Zrenner · P5: Luca Mainardi
19:00 h	Conference dinner (additional fee applies, registration required)

**T** Tulla lecture hall

**H** Heinrich Hertz lecture hall

**F** Tulla foyer

## FOKUSSITZUNG: KARDIOLOGIE\*

The following sessions are held in German. There are English sessions in parallel.

<b>H</b>	<b>Block K1: Antikoagulation</b> Vorsitz: Claus Schmitt
08:30 – 09:00 h	» <b>NOAKs – gibt es Unterschiede?</b> Katharina Ruppender
09:00 – 09:30 h	» <b>Vorhofrohr-Occluder als Alternative zur Antikoagulation</b> Matthias Merkel
09:30 – 10:00 h	» <b>Kryptogener Schlaganfall – welche Rolle spielt Vorhofflimmern?</b> Kerstin Tykocinski
10:00 – 10:30 h	Kaffeepause
<b>H</b>	<b>Block K2: Vorhofflimmern/Vorhofflattern</b> Vorsitz: Matthias Merkel
10:30 – 11:00 h	» <b>Katheterablation von Vorhofflimmern – Routineverfahren bei paroxysmalelem Vorhofflimmern. Wie ist die Erfolgsrate bei persistierendem Vorhofflimmern?</b> Patrick Hörmann
11:00 – 11:30 h	» <b>Medikamentöse Therapie von Vorhofflimmern: Antiarrhythmische Therapie – Antihypertensive Therapie – Herzinsuffizienztherapie</b> Kerstin Schmidt
11:30 – 12:00 h	» <b>Diabetes mellitus und Vorhofflimmern</b> Sebastian Zink
12:00 – 12:30 h	» <b>Adipositas und Vorhofflimmern</b> Daniel Gärtner
12:30 – 14:00 h	Mittagspause
<b>H</b>	<b>Block K3: Vorhofflimmern/Vorhofflattern – Fortsetzung</b> Vorsitz: Armin Luik
14:00 – 14:30 h	» <b>EKG-Diagnostik bei typischem und atypischem Vorhofflattern</b> Claus Schmitt
14:30 – 15:00 h	» <b>Vorhofflattern nach Pulmonalvenen-Isolation – Ein Schritt hin zum Sinusrhythmus!</b> Armin Luik
15:00 – 15:30 h	» <b>His-Bundle-Pacing nach AV-Knoten-Ablation bei therapie-refraktären atrialen Tachyarrhythmien</b> Juraj Melicherčík
15:30 – 15:45 h	<b>Abschlussdiskussion Fokussitzung Kardiologie</b>
16:00 – 16:15 h	<b>Heinrich Hertz – historical excursus into the discovery of electromagnetic waves at the exact historical place</b> Olaf Dössel
16:15 – 16:30 h	<b>CLOSING REMARKS</b> Claus Schmitt & Olaf Dössel

\* Die Fokussitzung Kardiologie wird bei der Landesärztekammer Baden-Württemberg zertifiziert.

**T** Tulla lecture hall

**H** Heinrich Hertz lecture hall

**F** Tulla foyer

## ADVANCED METHODS AND TECHNIQUES

<b>T</b>	<b>Block A1: Methods of electrogram processing</b>
08:30 – 08:45 h	» <b>Dominant frequency and dominant frequency maps</b> Maria Guillem
08:45 – 09:00 h	» <b>Phase maps and singularity points</b> Miguel Rodrigo
09:00 – 09:15 h	» <b>Cellular interpretation of electrograms with machine learning</b> Chris Cantwell
09:15 – 09:30 h	» <b>Recurrence quantification for electrogram analysis</b> Tiago Almeida
09:30 – 09:45 h	» <b>Predicting ablation outcome from electrogram characteristics</b> Pablo Laguna
09:45 – 10:00 h	» <b>Low voltage revisited</b> Deborah Nairn
10:00 – 10:15 h	» <b>Analysis of depolarization waves via directed graph mapping</b> Nele Vandersickel
10:15 – 10:45 h	<b>Panel discussion</b> Chair: Olaf Dössel
10:45 – 11:00 h	Coffee break
<b>T</b>	<b>Block A2: The P-wave and AFLut/AFib</b>
11:00 – 11:15 h	» <b>What can we learn about AFLut and AFib from the ECG using machine learning?</b> Giorgio Luongo
11:15 – 11:30 h	» <b>Vectorcardiogram analysis to classify AFLut</b> José Millet
11:30 – 11:45 h	» <b>Detecting atrial arrhythmias with mobile devices</b> Leif Sörnmo
11:45 – 12:00 h	» <b>Generating big synthetic data for arrhythmia research: simulation of 100,000 P-waves</b> Claudia Nagel
12:00 – 12:15 h	» <b>Direct mapping from body surface potentials to cardiac activation maps using neural networks</b> Andreu Climent
12:15 – 12:30 h	<b>Panel discussion</b> Chair: Olaf Dössel
12:30 – 14:00 h	Lunch break
<b>T</b>	<b>Block A3: Computational modeling of the atria, AFLut, and AFib</b>
14:00 – 14:15 h	» <b>openCARP as an in silico research tool for “atrial signals”</b> Ed Vigmond
14:15 – 14:30 h	» <b>A detailed model of fibrotic tissue and corresponding electrograms</b> Jorge Sánchez
14:30 – 14:45 h	» <b>Computer assisted assessment of atrial vulnerability</b> Luca Azzolin
14:45 – 15:00 h	» <b>Modeling fluid dynamics in the atria</b> Cristiana Corsi
15:00 – 15:15 h	» <b>Modeling drug effects</b> Elisa Passini
15:15 – 15:30 h	» <b>Modeling the aging of the heart</b> Esther Pueyo
15:30 – 15:45 h	<b>Panel discussion</b> Chair: Axel Loewe
<b>H</b>	<b>Heinrich Hertz – historical excursus into the discovery of electromagnetic waves at the exact historical place</b> Olaf Dössel
16:00 – 16:15 h	<b>CLOSING REMARKS</b> Claus Schmitt & Olaf Dössel