

## Board of examiners

**Prof. Dr. Pascal Defaye**

Department of Cardiology  
Cardiology CHU de Grenoble Alpes, France

**Prof. Dr. Andrea Sarkozy**

Department of Cardiology  
Antwerp University Hospital

**Prof. Dr. Bernard Cosyns**

Department of Cardiology  
UZ Brussel; Vrije Universiteit Brussel

**Prof. Dr. Jan Poelaert**

Department of Anesthesiology (DAP)  
UZ Brussel; Vrije Universiteit Brussel

**Prof. Dr. Kristin Jochmans**

Clinical Biology  
UZ Brussel; Vrije Universiteit Brussel

**Prof. Dr. Mark La Meir, Chair**

Cardiac Surgery (CHVZ)  
UZ Brussel; Vrije Universiteit Brussel

**Prof. Dr. Carlo de Asmundis, Promoter**

Heart Rhythm Management Center  
UZ Brussel; Vrije Universiteit Brussel

**Prof. Dr. Gian-Battista Chierchia, Promoter**

Heart Rhythm Management Center  
UZ Brussel; Vrije Universiteit Brussel

**Prof. Dr. em. Pedro Brugada, Co-promoter**

Heart Rhythm Management Center  
UZ Brussel; Vrije Universiteit Brussel



PhD in Medical Sciences  
2017-2018

INVITATION to the Public defence of

**Serge Boveda**

To obtain the academic degree of '**DOCTOR IN MEDICAL SCIENCES**'

**Atrial Fibrillation Treatment in the Last Two Decades:  
moving from Electrical Cardioversion to Cryoballoon  
Ablation.**

**Tuesday 4 September 2018**

Auditorium **Piet Brouwer**, 17:00

Faculty of Medicine and Pharmacy, Laarbeeklaan 103, 1090 Brussel

How to reach the campus Jette:

<http://www.vub.ac.be/english/infoabout/campuses>

---

## Summary of the dissertation

Atrial fibrillation (AF) is the most common rhythm disorder widespread in Western countries: its prevalence is estimated to be between 1% and 2% of the total population, it increases according to age to reach more than 5% after 80 years.

Catheter ablation strategies have been developed more recently with the intention of 'curing' AF. Indeed, these procedures are associated to significantly higher success rates if compared to antiarrhythmic drugs in maintaining sinus rhythm. The electrical disconnection of the PV from the adjacent LA, has been demonstrated to be the cornerstone of AF ablation strategy, with radiofrequency (RF) currently being the most widespread energy source. However, the RF ablation is complex, time consuming, and highly dependent on operator experience. Various techniques and different ablation strategies have been developed in an effort to simplify PVI, to allow a broader number of patients to access to this therapy.

Cryoballoon ablation displays similar efficacy and overall safety profile, when compared to radiofrequency ablation for the treatment of patients with drug-refractory paroxysmal atrial fibrillation, in any anatomical configuration, without the need to select patients according to the latter. Importantly, cryoballoon ablation seems to be less operator-dependent and more reproducible than radiofrequency for the isolation of pulmonary veins.

New improvements of ablation tools are expected in the next future, in order to improve and facilitate the procedure. But at shorter notice, we should particularly focus on the total number of cryo-applications and their adequate duration, in order to achieve and maintain a favourable clinical outcome, and to minimize the risk of complications for the vast majority of patients.

## Curriculum Vitae

Serge Boveda was born on the 16th February 1964 in Toulouse, France.

In milestones:

- MD since 1994, specialist in cardiovascular diseases, interventional treatment of cardiac arrhythmias.
- Co-Head of the Cardiac Arrhythmia Management Department, Clinique Pasteur (ongoing).
- Vice-President elected of the arrhythmia group of the French Society of Cardiology (SFC) in 2016-2017.
- President of the arrhythmia group of the French Society of Cardiology (SFC) since 2018 (ongoing).
- Faculty of the French national graduation on cardiac arrhythmias (Diplôme Inter Universitaire de Rythmologie) since 2002 (ongoing).
- Founder and coordinator of the European Network for the Treatment of Cardiac Arrhythmias (RETAC) since 1995 (ongoing).
- Member of the Scientific Initiative Committee of EHRA (European Heart Rhythm Association from the ESC) since 2015 (ongoing).
- Articles published in international peer-reviewed journals: 128 in total – 27 first author – 21 last author.
- Member of the International Editorial Board of the Revista Española de Cardiología (IF 5.2).
- Usual reviewer for Europace, Heart Rhythm and JACC EP.