

## Annual Report 2012 – 2013

### Nucleus composition

#### CHAIR

Prof. Marek Malik, FESC

#### VICE-CHAIR

Assist. Prof. Goran Krstacic, FESC

#### PAST-CHAIR

Dr. Enno T. van der Velde, FESC

#### SECRETARY

Assist. Prof. Enrico Gianluca Caiani

#### TREASURER

Prof. Georg Schmidt, FESC

#### ORDINARY NUCLEUS MEMBERS

Prof. Axel Bauer, FESC

Dr. Catherine Chronaki

Assoc. Prof. Przemyslaw Guzik

Dr. Nadjia Kachenoura

Prof. Federico Lombardi, FESC

#### EX-OFFICIO NUCLEUS MEMBER

Dr. Nico Bruining, FESC

### Scope of Working Group activities

The scope of the Working Group encompasses a wide area of specialised computer methods in cardiovascular image processing (such as quantitative coronary angiography, intravascular ultrasound, echocardiography, magnetic resonance imaging, nuclear cardiology, etc) and biosignal processing (such as automatic ECG analysis, arrhythmia detection, etc). Members of the Working Group are also actively involved in many other fields such as the application of Neural Networks to cardiovascular diagnosis.

In addition, work in generic topics such as computerized databases and Internet communication is undertaken by Working Group members. These topics include some that

are of major interest to many members of the ESC, and not only to those who are associated with the Working Group.

The availability of the Web provides the perfect infrastructure on which to apply many of these generic activities. In this sense, the activities of the Working Group constitute not only genuine specialized research efforts but also work that could be considered as a service to other ESC Working Groups.

## **Nucleus Meetings**

During the year 2012 – 2013, the Nucleus of the Working Group met three times.

The first was the regular Spring meeting that was held on 23<sup>rd</sup> and 24<sup>th</sup> March 2013 in the Hilton hotel in Rotterdam. During the meeting, the Nucleus discussed the development of future activities of the Working Group with a particular attention to endorsed meetings and ESC sponsored documents. Suggestions of the sessions to be proposed for the ESC Congress 2014 in Barcelona were also discussed. Several communication activities with the membership of the Working Group were prepared.

The second meeting took place in conjunction with the EHRA / Europace Congress and was held on 23<sup>rd</sup> June 2013 in the Hilton Hotel in Athens. Substantial part of the meeting was devoted to the ESC sponsored document on heart rate variability technology (as described in more detail in a dedicated section of this report), the remaining part of the meeting discussed the organisation of symposia and dedicated meetings of the Working Group. It was decided that instead of separate stand-alone symposia, the Working Group will be organising regular meetings in conjunction with the EHRA/Europace – Cardiostim meetings and with the annual meetings of the Imaging Association EACVI.

Third brief meeting of the nucleus was held during the ESC Congress in Amsterdam and reviewed our contributions to the ESC Congress as well to the ESC congresses in general. The possibility of establishing further contacts with relevant industry was also discussed with the aim of increasing financial support of Working Group activities. The conclusions of the Nucleus meeting were presented to the Working Group membership during the Annual General Assembly of the Working Group. All the activities were discussed in detail during the Annual General Assembly.

During the ESC Congress in Amsterdam, several members of the Nucleus also met with a scientific group of Cardiovascular Prevention, Rehabilitation & Sports Medicine from the University Hospital Bern. It was agreed to advance the previously held ETCPR-course to a broader meeting of the European Congress on e-Cardiology to be held in October 2014.

## **Collaboration with EHRA**

The Working Group continues successful of and productive collaboration with the European Heart Rhythm Association EHRA. Among others, the Working Group has a permanent

representation at the Board of EHRA and the EP Europace is now an official journal of the Working Group.

The Working Group is actively promoting EHRA activities including a contribution to EHRA meetings (as described in more detail in a dedicated section of this report). Co-sponsored scientific documents endorsed jointly by EHRA and the Working Group are also presently prepared.

EHRA sponsors the Working Group by annually donating €10,000 to the budget of the Working Group.

## **Collaboration with the Imaging Association**

Similar relationship as the Working Group has with EHRA is presently being developed also with the recently established Imaging Association EACVI.

## **Endorsed meetings**

Since its conception, the Working Group has regularly endorsed the meeting of Computing in Cardiology (formerly Computers in Cardiology). The chairperson of the Working Group is an ex-officio member of the Board of Computers in Cardiology. To make this arrangement reciprocal, it has been decided to regularly invite the President of Computing in Cardiology to the Spring meetings of the Working Group Nucleus.

The 2012 Computing in Cardiology meeting was held between 9<sup>th</sup> and 12<sup>th</sup> September 2012 in Krakow, Poland.

The Working Group also endorsed the meeting of the European Study Group of Cardiovascular Oscillations.

## **ESC Sponsored Documents**

The Working Group obtained ESC support and sponsorship to develop a consensus document on the engineering background and medical applications of technologies used in the advanced measurements of heart rate variability. The document will be developed together with EHRA and it is expected that it will be published in 2014 in EP Europace.

The Working Group also prepares a consensus document covering the QT interval variability. It is expected that a proposal of this document will be submitted to ESC for official sponsorship during 2014. It is again expected that this document will be jointly endorsed by the Working Group and EHRA.

## **Scientific programme contributions**

The Working Group has been successful in contributing to major meetings. Three sessions proposed by the Working Group have been incorporated into the programme of the ESC Congress in Amsterdam and a whole block of sessions prepared by the Working Group was incorporated into the programme of the EHRA/Europace Congress in Athens.

Similar contributions are expected to the forthcoming EuroEcho and Cardiotrim meetings.