

# Computing in Cardiology (CinC)

**A report from the 41st Annual CinC meeting in Cambridge, MA, USA, held on 7–10 September 2014**



**Computing in Cardiology**

The European Society of Cardiology, through its Working Group 15 (e-Cardiology), has had a long association with Computers in Cardiology which it has recently been renamed Computing in Cardiology (CinC). Indeed, the annual Computing in Cardiology meeting is endorsed by the ESC through WG15. Professor Paul Hugenholtz, a former President of the ESC, helped to establish the CinC Annual Meeting.

This year, the 41st Annual CinC Meeting was held in Cambridge, Massachusetts. The local organizing committee, guided by Dr Roger Mark following the illness of George Moody, was mainly drawn from the staff of MIT/Harvard University. Approximately 350 delegates attended the meeting, which was the largest number yet held outside of Europe. This is a reflection on the meeting itself and the importance which computing techniques now play in everyday cardiology.

From automated ECG interpretation to MRI, echocardiography and support for interventions and ablations among other things, computer-based methodologies have an enormous role to play. The annual meeting of CinC is therefore a time when engineers and clinical scientists gather to discuss how such investigative technologies can be enhanced.

Prior to the opening of the 2014 meeting, there was a Sunday Symposium at which leading presentations on Data-driven Learning, Discovery, and Innovation were delivered by leading world authorities.

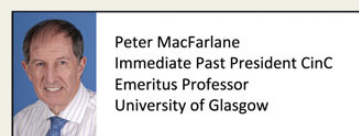
Traditionally, CinC begins with presentations by four competitors, selected this year after peer review of over 50 entries for the Rosanna Degani Young Investigator Award, which was won by Matthijs Cluitmans (Maastricht, Netherlands).

This opening plenary session was then followed for 3 days by four sessions in parallel, which covered a large number of topics. There

were sessions on cardiac arrhythmias, blood pressure, infarction and ischaemia, modelling, etc. There were two large poster sessions, as many engineers and research students opt to present their results in this way. This is one of the characteristics of CinC. Another is that the Proceedings of each annual meeting are freely available on-line at <http://www.cinc.org/archives.shtml>.

One other special item is the PhysioNet Challenge where a problem is set many months in advance of the meeting giving competitors time to develop a solution. This year the challenge related to Robust Detection of Heart Beats in Multimodal Data gathered from bedside monitors and similar devices that record a variety of physiological signals. This annual PhysioNet/CinC challenge (<http://physionet.org/challenge/2014/>) always proves immensely popular and the databases used by competitors are of worldwide importance to researchers and industry in the development of robust algorithms for incorporation into products. There were three winners, Marcus Vollmer (Greifswald, Germany), Thomas De Cooman (Leuven, Belgium), and Alistair Johnson (Oxford, UK).

The Chairman of WG15 has been an ex-officio member of the Board of Directors of CinC for many years and lately, Professor Marek Malik the previous Chairman of WG15, suggested that reciprocity should be sought. This has recently been agreed by the ESC and now the President of CinC will in future attend the WG15 Nucleus meetings. Thus, the links between WG15 and CinC have been strengthened even further.



Peter MacFarlane  
Immediate Past President CinC  
Emeritus Professor  
University of Glasgow



Pablo Laguna  
President CinC  
Professor of Signal Theory and  
Communications  
University of Zaragoza



Goran Krstacic  
Chairman, ESC WG15 (e-Cardiology)  
Director of the Institute for  
Cardiovascular Prevention and  
Rehabilitation,  
Zagreb University of Osijek, Croatia