

Working Group 15

Annual Report 2000-2001

Over the past year, the following activities have taken place under the auspices or organization of Working Group 15:

DICOM activities

The Committee on Digital Imaging of the ESC in which a number of our members participate continues to work together with the Working Group 1 of the DICOM Standards Committee. The results of these activities will be presented in the WebSp@ce at the ESC meeting in Stockholm.

Symposia at ESC Annual Meeting in Stockholm

For the 2001 ESC Meeting in Stockholm, three Symposia will be organized by our WG alone, one by our WG together with the WG on Cardiovascular Magnetic Resonance, and one together with the WGs on Nuclear Cardiology and Cardiovascular Magnetic Resonance. The dates and titles of these symposia are as follows:

- ▶ Sunday Sept 2, 8.30 - 10.00: Telemonitoring and wireless applications
- ▶ Sunday Sept 2, 16.30 - 18.00: How can a fully electronic patient record support the cardiologist in his daily practice?
- ▶ Sunday Sept 2, 16.30 - 18.00: Clinical cardiovascular magnetic resonance today, together with the WG Cardiovascular Magnetic Resonance.
- ▶ Tuesday, Sept 4, 11.00 -12.30: How can Internet be used in the management of clinical trials
- ▶ Wednesday, Sept 5, 11.00 -12.30: Image fusion: the next step in clinical cardiology together with the WG Nuclear Cardiology and the WG Cardiovascular Magnetic Resonance.

New members

Fortunately, we receive regular requests from scientists to become a member of our WG. In other words, our WG is growing, which is a very positive sign! After the candidate has submitted his/her CV, it is decided whether to accept the request or not. So far, none has been rejected. This procedure is carried out in close collaboration with the ESC offices in Nice. The official number of members as of July 2000 is now 156. Of course, additional new members are very welcome and anyone interested in joining should contact the chairman.

Summary of the Computers in Cardiology Annual Meeting in Cambridge, USA

Sept 2000

Computers in Cardiology exists to encourage inter-disciplinary communication among cardiologists and other clinicians, engineers, computer scientists and physical scientists, and physiologists. The annual meeting is the most important meeting of the Computers in Cardiology Working Group of the European Society of Cardiology. The Chairman of this Working Group is on the Board of Directors, and this Board includes world wide representation to ensure Computers in Cardiology is truly international.

In 2000, we met in September in Cambridge, home of MIT, and just over the Charles River Basin from Boston. The meeting was ably chaired by Dr Roger Mark from the MIT who was assisted by eight other keen workers from the MIT and local hospitals.

A tradition has grown up that the organisers lay on an opening symposium which focuses on areas of their choice. They chose two topics; the first on Sleep Apnea and the second on Effects of Space Flight on Human Physiology at the Boston Museum of Science, which was preceded by an Omni Theater presentation of Space exploration.

The session on Sleep Apnea was the culmination of a competition to detect and quantify sleep apnea from ECG recordings. In summary, sleep apnea data were given for 35 overnight recordings, and using these data as learning data, the objective was to classify 35 other recordings with only ECG data into different sleep apnea classes, or to identify which minutes in each recording contained sleep apnea episodes. These data had been provided by Dr Thomas Penzel, from Marburg, Germany, and the competition was organized and refereed by George Moody of MIT, using the new research resource 'PhysioNet' (www.physionet.org). Twelve research groups submitted an abstract and presented their results later in the conference. These groups, along with others, outlined their algorithms and their approach to the problem. At the abstract deadline, one group had correctly classified all of the recordings, and another had successfully classified 83% of the minutes. By the time of the presentations, three more groups had classified all the recordings correctly, and nearly 93% of the minutes were correctly identified. This was an exciting session. There were eager requests for a new competition in 2001, so be prepared.

Dr Richard Cohen chaired the symposium on Effects of Space Flight on Human Physiology, and also reviewed the Cardiovascular effects of space flight. Other speakers were John Charles from the NASA Johnson Space Center who spoke on Planning a trip to Mars, and Laurence Young from MIT and the National Space Biomedical Research Institute who reviewed the Physiological effects of space flight. This was a very interesting event.

The main Computers in Cardiology Symposium opened the following day with presentations for the Rosanna Degani Young Investigator Award. This was followed by 24 sessions over the 2½ day period. This may sound a lot, but the meeting is very deliberately designed to give participants time to interact and discuss, especially on the opening day. I can give only a brief outline of the research presented. It included imaging, with separate sections on DICOM, coronary and ventricular imaging, nuclear cardiology, and echocardiography. As in the previous year, we saw more presentations on telemedicine, and also on decision support. As usual, there was much on electrocardiography, and all of it practical. Sessions included advances in electrocardiographic techniques, and assessment of repolarisation and arrhythmias. There was still much interest in heart rate variability and more specifically on autonomic control. Also featured were cardiac mechanics, non-linear analysis, and the sleep analysis referred to above. I cannot end without referring to the Poster Session. This session is one of the most popular at Computers in Cardiology. It has a well publicised session all to itself, and almost everyone turns up for it. There was so much discussion that delegates had to be encouraged to leave.

The Proceedings were published in December 2000, two months after the meeting, and contain 229 manuscripts in 884 pages. This is one of the biggest volumes in recent years. The papers are indexed, so you should be able to find things fairly easily. It is published by IEEE (Computers in Cardiology 2000, Vol 27, Catalogue No. 00CH37163, ISBN 0-7803-6557-7).

For those of you who have access to the Web of Science produced by the Institute for Scientific Information, you can find Computers in Cardiology abstracts from 1991, under their Index to Scientific & Technical Publications (ISTP). A few years were missing, but we have supplied copies of these.

Also, I and all the other Members of the ESC Working Group hope that we have encouraged you to come to Computers in Cardiology 2001. It is hosted by the Thoraxcenter, Rotterdam and will be held in Rotterdam, The Netherlands from 23-26 September 2001, under the chairmanship of Dr Niek van der Putten. We hope to see you there. This again promises to be an excellent meeting in an exciting location. For further details on the Program, visit the CiC Web-site.

By Alan Murray
Editor, Computers in Cardiology

Internet activities

The impact of the Internet on the distribution of information from the ESC is growing rapidly and is involving many parts of the ESC organization.

To integrate these activities, a number of tasks of the former Internet Committee have been taken over by the Committee for Internet Services Development, while the Editorial Board of the ESC Web is responsible for the ESC exposure on the Internet.

Annual report of WG 15 - 2000-2001

Willem Dassen represents our working group in the Editorial board.

In the Business plan 2000-2002, the Editorial Board has presented their plans to preserve and further improve the quality and content of the ESC web site.

After a period of four years, in which the web site has assumed an authoritative role in cardiology, and in which a high level of specific knowledge on internet technology has been accumulated at the Heart House, new objectives could be defined by the Editorial Board.

The following is a list of a few of the projects aimed at further improving the quality of the web site:

- ▶ On line services were added to facilitate organisation of the annual congresses, e.g. abstract submission, registration, hotel booking etc.
- ▶ Information for the general public.
In cooperation with the working groups and the national societies, easy to read information for example about examinations, procedures and guidelines should become available.
- ▶ To strengthen the interactive contents of the site, the broadcasting activity, like editorials, webcasts, etc will be increased.
- ▶ The web site will further be used to improve the visibility of the ESC-related journals.
- ▶ Special programs will be developed to improve the dissemination of information generated by national societies and working groups.

In summary, the ESC web site is already nearly reaching all of its potential target of professionals and therefore the Editorial Board will promote activities to further improve the quality of the content, driven by the actual needs of the visitors to the web site.

Computer demos at the ESC in Stockholm

Following the successful revival last year in Amsterdam, the WG has again selected a total of 12 computer demos, which will be presented during the Stockholm meeting in the ESC WebSp@ce. This year, there was still some confusion with the abstract form about the indication of computer demos. We do hope that these will be resolved for the 2002 meeting. It looks like that this Computer Demonstration has become an integral activity of our WG at the annual ESC meeting.

Activities in 2001/2002

For the new year 2001/2002, we envisage the following activities:

- ▶ Further participation in the DICOM developments;
- ▶ Preparations for a DICOM demonstration at the 2002 ESC Meeting in Berlin, in association with Working Group 1 of the DICOM Standards Committee.
- ▶ Participation in the Annual Computers in Cardiology Meeting to be held in Memphis, USA.

Johan H.C. Reiber, Ph.D. Chairman, WG CiC	Peter W. MacFarlane, D.Sc. Co-chairman, WG CiC
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