Telecommunications and Networks are enabling technologies for telemedicine applications in remote and rural locations, but also for continuous health monitoring out of hospital, at home, and during sports, leisure or professional activities.

The 12th International Conference on e-Health Networking, Application & Services, Healthcom2010, was held in Lyon, France, on 1-3 July 2010. It was an opportunity to bring together interested parties from around the world working in the health care field to exchange ideas, to discuss innovative and emerging solutions and to develop collaborations.

More than 130 attendees, from 35 countries, included clinicians, IT professionals, researchers, healthcare solutions vendors, and consultants. About 90 papers were presented, addressing a broad variety of topics: Network/Communications Infrastructures and Architectures for Healthcare, New Models for Healthcare delivery, e-Health for Public Health, e-Health for ageing, m-Health, Field Applications, Educations, Ethics.

Healthcom2010 was also an important forum for discussions on e-Health projects sponsored by world bodies such as the European Community (FP6 and FP7 European projects on AAL and e-inclusion …).

The submission participation was high, with 122 papers out of which we selected 62 (the IEEE-Comsoc acceptance rate is fixed to 50%). Eventually, we selected for this special issue of IJEHMC, the 6 papers which better reflected the aims of the conference IEEE-Healthcom2010.

Body sensor networks allow collecting and aggregating data from several sensors in a mobile context. This mobility offers a continuous monitoring of the patient status with a better patients’ quality of life [An Advanced and Secure Symbian-based Mobile Approach for Body Sensor Networks Interaction, O. Pereira, J Caldeira, and J. Rodrigues].

Remote Telemonitoring of elderly people in their own home is a major challenge to face the fast growing populations of elderly people. Health Smart Homes allow monitoring the behavior of a person with non-intrusive sensors and processing of Data to build index of Activities of Daily Living. Eventually the major trends in the activity can reflect the global homeostasis of the subject. High level decision tools are used for the classification of scenarios of daily living, such as Support Vector Machines [Improving Supervised Classification of Activities of Daily Living Using Prior Knowledge, A. Fleury, N. Noury, and M. Vacher].

These smart homes are likely to benefit to people in loss of autonomy, such as disabled people or elderly with cognitive deficiencies. It becomes essential to facilitate their interactions with the Smart Homes through dedicated interfaces, such as systems reactive to vocal...
Audio recognition is also a promising way to ensure contributing to detection of distress situations [Development of Audio Sensing Technology for Ambient Assisted Living: Applications and Challenges, M. Vacher, F. Portet, A. Fleury, and N. Noury].

Existing femtocellular network resources, already available on site, may be used for rapid provisioning of mobile broadband data connectivity indoor for emergency telemedicine applications. The femtocellular network approach, as opposed to the conventional macrocellular mobile networking approach (UMTS/WCDMA) results in a reduction in service outage rates [On the use of Home Node Bs for Emergency Telemedicine Applications in Various Indoor Environments, E. Mutafungwa, Z. Zheng, J. Hämäläinen, M. Husso, and T. Korhonen].

E-healthcare and telemedicine applications are being widely deployed to provide healthcare to remote locations in developing countries. The existing healthcare and communications facilities but also socio-economic conditions of populations must be carefully addressed. Then generic e-healthcare units can be deployed to meet the various requirements in different deployment scenarios [Proposed Framework for the Deployment of Telemedicine Centers in Rural Bangladesh, R. Mostafa, G. Hasan, A. Kabir, and M. Rahman].

Telemedicine also allows deployment of real time disease surveillance and notification systems in developing countries. It reduces the

Figure 1. Healthcom2010 topics
latency to communicate field Data to central Epidemiology Units, which can process it to timely detect disease outbreaks, and allows health system to effectively respond and mitigate their consequences. The alerting modules adopt global content standard for structuring the messages that are transported via SMS, Emails and Web [Affordable System for Rapid Detection and Mitigation of Emerging Diseases, N. Waidyanatha, A. Dubrawski, Ganesan M., and G. Gow].

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Norbert Noury has specialized in the field of "smart sensors" for Ambient Assisted Living environments and for Ubiquitous Health monitoring systems. He received the M.Sc Electronics from Grenoble Polytechnic Institute (1985) and the PhD Applied Physics from Grenoble University (1992). He spent 8 years in various industrial companies (1985-93), and then joined the Grenoble University (1993) where he founded a new research activity on Health Smart Homes (2000). Norbert Noury is now a full Professor at the University of Lyon. He has guided 16 PhD students, authored or co-authored about 150 scientific papers (including 30 journal papers, 80 communications in International Conferences, 8 patents, 14 book chapters) and is a recognized expert at the European Commission.