After ten very successful conferences held in France (2003), Singapore (2004), Canada (2005), Northern Ireland (2006), Japan (2007), USA (2008), France (2009), Korea (2010), Canada (2011) and Italy (2012), the 11th International Conference on Smart homes and health Telematics will be hosted for the second time in Singapore from 19 to 21 June 2013. Though located in Singapore, the conference will be jointly organized by A*STAR, Singapore and Hosei University, Japan, and will address common issues concerning ageing and elderly worldwide.

Each year, ICOST has a specific theme. The theme chosen for 2013 will focus on the ‘inclusiveness’ of solutions and technologies to enable the support of ageing-friendly communities through health and well being management.

SUBMISSION OF PAPERS

Accepted papers will appear in the conference proceedings to be published by Springer.

**Wednesday, 19 June 2013 11:30 – 13:00**

Session 01: Supportive Technology for Ageing and people with Cognitive Impairment

1. The nature and use of surveillance technologies in residential care
2. Sensors on my bed: The ups and downs of in-home monitoring
3. Corridor Sensor Arrays for Dementia Group Home
4. PhonAge: Adapted Smartphone for Aging Population

**Wednesday, 19 June 2013 14:30 – 16:00**

Session 02: Activity Recognition and Algorithmic Techniques

1. Extracting Intra- and Inter-activity Association Patterns from Daily Routines of Elders
2. A Wavelet Feature Based Mechanomyography Classification System for a Wearable Rehabilitation System for the Elderly
3. Activity Recognition and Activity Level Estimation for Context-Based Prompting System of Mild Cognitive Impairment Patients
4. Behavior Recognition for Elderly People in Large-Scale Deployment

**Thursday, 20 June 2013 09:30 – 11:00**

Session 03: Trust, security and social issues

1. Towards a context aware modeling of trust and access control based on the user behavior and capabilities
2. PriGen: A Generic Framework to Preserve Privacy of Healthcare Data in the Cloud
3. Dynamicity in Social Trends towards Trajectory Based Location Recommendation
4. A SmartTV Platform for Wellbeing, Care and Social Support for Elderly at Home
Thursday, 20 June 2013 14:30 – 16:00
A*STAR Robotics Workshop 04: Assistive Robotics and HCI issues

1. Evaluation of the Pet Robot CuDDler using Godspeed Questionnaire
2. A User Study for an Attention-Directed Robot for Telepresence
3. Supporting Technology for Wheelchair users - Intuitive Interface and Step climbing Assistance

Friday, 21 June 2013 09:30 – 11:00
Session 05: Supporting Safety and Pervasive Healthcare

1. Hybrid Reasoning Framework for CARA Pervasive Healthcare
2. Elderly Safety: A Smartphone Based Real Time Approach
3. Ambient assistive healthcare and wellness management - Is “the wisdom of the Body” transposable to one’s home?
4. SIMS: Self-adaptive Intelligent Monitoring System for Supporting Home-based Heart Failure Patients

Friday, 21 June 2013 11:45 – 13:15
Session 06: Home energy usage, reasoning framework, services

1. Facilitating Spontaneous Energy Saving in a Smart Home using Interruptibility-aware Reminders with Ecological and Abstract Information Visualization
2. Building high-accuracy thermal simulation for evaluation of thermal comfort in real houses
3. Force Efficient Analysis of a Hybrid Magnetic Actuation System for Minimally Invasive Diagnostics and Interventions
4. Assessing Behavioral Responses in Persuasive Ubiquitous Systems
Preface

Owing to the rapid growth in the aging population and the so-called silver tsunami, a proactive healthcare strategy is being put in place across the world. This approach emphasizes active aging, wellness management, and a continuous monitoring of chronic diseases, hand-in-hand with the treatment of diseases and debilitating conditions of frail elderly. The approach also promotes awareness of elders’ needs in the community, an attitude of inclusion among the population at large, and a care-provisioning infrastructure that meets the needs of elders living alone in their own homes, as well as those living in group facilities. Inclusiveness ensures a conscious awareness of elders as respected citizens in the community, and not those relegated to reside on the fringe. The need for the future is a shift in our attitude toward a position of inclusion among the population at large, a shift in the policy makers toward a care-provisioning infrastructure that meets the needs of elders, and a shift in each of our attitudes as we individually approach the inevitable goal of aging with dignity. Today, increasingly, many elders who are living by themselves are not truly alone. They are being watched by a number of new technologies custom designed to enable them to live independently and avoid expensive trips to the emergency room or nursing homes.

This is facilitated by smart environments and technical advancements in health sensing and monitoring technologies that operate on cost points that are unprecedented. A smart home allows residents to perform tasks efficiently, while at the same time being automatically monitored for early warning in health changes. In the near future the elderly and people with disabilities will avail of smart assistive technology to assist in carrying out daily activities, socializing, enjoying entertainment and leisure activities while still maintaining good health and wellbeing. Health Telematics makes the most of networks and telecommunications to provide, within the home environment, health services, expertise, and information and hence radically transform the way health-related services are conceived and delivered. We believe that in the future, aging and disabled people will use smart assistive technology to perform daily living activities, socialize, and enjoy entertainment and leisure activities.

ICOST is considered as a premier venue for the presentation and discussion of research in the design, development, deployment, and evaluation of smart environments, assistive technologies and health telematic systems. The theme for this year’s ICOST conference was “Inclusive Society: Health and Wellbeing in Aging-Friendly Community, – eHealth, Telemedicine, Chronic Disease Management and Care at Home.” This theme focused on the ‘inclusiveness’ of solutions and technologies to enable the support of aging-friendly communities through health and wellbeing management.
We are happy to note that this year, ICOST2013 received submissions not only from the traditional focus area of smart home technologies and architectures, but also from those dealing with engagement of end-users and caregivers. The review process was quite selective; 22 papers were selected for oral presentation, out of 53 submissions. The papers were organized into various sessions focusing on healthcare issues of the elderly, wellness and aging at home, privacy and security, algorithmic aspects, human–computer interface issues and architecture and protocols for services. Anchoring the 2013 ICOST was a set of five keynote and invited speeches from world-renowned researchers. A special competition entitled Hacknovate was organized by the Khoo Teck Puat Hospital in conjunction with A*STAR. The second day of the conference hosted a special Healthcare and Lifestyle session organized by A*STAR, where the emphasis was primarily on healthcare issues spanning across engineering and medical communities – addressing acute care as well as stepped down care.

We would like to thank all the people who were involved in the making of this conference, in particular the members of the Steering Committee for their valuable guidance, assistance and support; members of the Program Committee for their in-depth and timely reviews of the papers; members of the Organizing Committee for their hard work and prompt handling of innumerable issues that cropped up; and finally the keynote speakers and presenters of invited talks, the authors, and the attendees for their contributions and participation in the conference.

June 2013

Jit Biswas
Hisato Kobayashi
Lawrence Wong
Bessam Abdulrazak
Mounir Mokhtari
Organization

We would like to acknowledge the support of the CNRS Image and Pervasive Access Laboratory (IPAL), the Institute for Infocomm Technology, Neural and Bioengineering Technology Department (NBT) for supporting the conference through participation of its members, the A*STAR Science and Engineering Research Council (SERC) for the Health and Lifestyle special session of the conference, the Ministry of Health Holdings of the Infocomm Development Authority (IDA) of Singapore, for their support, and last but not the least, Khoo Teck Puat Hospital (KTPH), Singapore, for their participation in the organization of the Hacknovate event prior to the conference and for their continued support of ICOST conferences over the years.

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