

International Workshop on System Biology and Biomedical Systems- Devices and Systems for Consumer Healthcare and Preventive Care, SBBS 2018

Date: 10 March, 2018 Saturday

Venue: Room M3017, R R S Creative Media Centre, City University of Hong Kong (on Cornwall Hill, walk through CityU dormitory, walk ~15 min from Kowloon Tong MTR)

Jointly organized by:

IEEE Consumer Electronics Society Hong Kong Chapter, and CIE Hong Kong

Sponsored by IEEE Systems Council

Supporting organisations:

IEEE Product Safety Engineering Society Hong Kong Chapter,
IET Hong Kong,
HKIE Electronics Division



This one day Workshop will be held March 10, 2018 in Hong Kong and is sponsored by the IEEE Systems Council and the IEEE Consumer Electronics Society. The focus of the workshop is the system biology aspects of consumer healthcare devices, reliability, and optimization on preventive care solutions. The Workshop features outstanding speakers from Industry and the Research community across the world. We invite you to attend and participate if you have an interest in healthcare technology or want to learn about critical applications, advanced technologies for biomedical systems and consumer healthcare, and practical aspects of Medical Devices and Testing. The Workshop also includes Panel Discussions with audience participation, and a roundtable Working Group aimed at future actions by the System Biology and Biomedical Systems Initiative to foster adaption and acceptance of Consumer Healthcare Applications

Organizing Committee

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IEEE Consumer Electronics Magazine Co-ordinator: Robin Bradbeer
Finance Chair: Edward Cheung, Hong Kong Polytechnic University

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International Advisory Committee

Nirwan Ansari	Walt Downing	Stephen Dukes
A. Fong	H. Gholamhosseini	Roger Oliva

Background:

Recent advances in wearable health devices ranging from general consumer health monitors for daily activity tracking to sophisticated medical devices provide a platform for gathering vital information about a user in the event of an emergency. As healthcare service providers become increasingly reliant on intelligent and interconnected devices in every aspect of health support, critical reliability, data integrity and interoperability are important considerations that need to be thoroughly addressed. In addition to technical challenges, relevant social and economic issues also need to be solved for integrating these devices into the national health systems such that electronic patient record of individual users can be continuously updated.

This workshop focuses on the biomedical aspects of such consumer healthcare devices and medical systems. It will facilitate the exchange of research results and development in the areas of individual systems, biological businesses, applications, monitoring, measurements, prototyping and testbed development; social impact, public sector and clinical trials.

In this workshop, the following topics will be covered:

Interoperability, backward and forward compatibility for legacy system integration as well as future trends

Flexible deployment, self-cognizant devices and systems

Resource management and optimization

Efficiency and reliability for emergency support

Biosensing and biomaterials in consumer health applications

Healthcare development, elderly, safety, biomedical sensors, wearables, IoT

Healthcare, ..etc.

Selected papers may be considered for publication, after revision and through official path, in the special section of IEEE Consumer Magazine.

Agenda (subject to change without further notice)

Time	Description	Resource Person
8:45a.m. – 9:00a.m.	Registration	
9:30a.m. – 9:35a.m.	Welcome Remarks	Dr. Robin Bradbeer, Secretary, IEEE Consumer Electronics Society Hong Kong Chapter
9:35a.m. – 9:40a.m.	Souvenir Presentation and Photo Taking	
9:40a.m. – 10:00a.m.	1. Keynote Speech – IoT, Health Data and Patient-oriented Health Management	Mr. Clube Ng Co-opted Board Member, eHealth Consortium; Working Council Member, Asia eHealth Information Network (AeHIN)
10:00a.m. – 10:20a.m.	2. blood sugar estimation with hotoplethysmogram	Dr. Chih-wei Tsai, Dr. Chun-hung Li, Dr. Ringo Lam, Dr. C.K. Li and Sam Ho, Add Care Ltd.
10:20a.m. – 10:40a.m.	3. Safety IoT Healthcare	Woody CK Wu, KF Tsang, Hongxu Zhu and YuCheng Liu, City University of Hong Kong
10:40a.m. – 11:00a.m.	AM Coffee Break	
11:00a.m. – 11:20a.m.	4. Healthcare Product Analysis	Dr. Tony Lee , Open University of Hong Kong
11:20a.m. – 11:40a.m.	5. Smart Elderly Care Robot	Mr. Ivan Cheng / Dr. YH Shum, Department of Engineering, IVE (Shatin)
11:40a.m. – 1:45p.m.	Lunch	
1:45p.m. – 2:00p.m.	Souvenir Presentation and Photo Taking	
2:00p.m. – 2:20p.m.	6. Wearable devices for health informatics	Dr Yali Zheng, The Chinese University of Hong Kong
2:20p.m. – 2:40p.m.	7. Eye-based mobile health system: more than meets the eye	Dr. Kevin Hung, The Open University of Hong Kong
2:40p.m. – 3:00p.m.	8. Miniature System for Optogenetic Neural Circuit Manipulation	Dr. PUN SIO HANG, Biomedical IC Research Line, State Key Lab of Analog & Mixed-Signal VLSI, University of Macau UMAC
3:00p.m. – 3:30p.m.	PM Coffee Break	
3:30p.m – 3:50p.m	9. Skin Impedance Measurement in Wearable Non-invasive Optical Blood Glucose Monitors	C. K. Li, B. Fong and Chih-Wei Tsai Chih-Wei Tsai
3:50p.m. – 4:10p.m.	10. Restoring Severe Quantized Signals for Blood Glucose Estimation	Dr. Yuwei Liu and Dr. Wing-Kuen Ling, Guangdong University of Technology; Chi-Kong Li and Sam Ho, Shu Tang Information

		Technology (Shenzhen) Company
4:10p.m. – 4:55p.m.	Panel Discussion	Moderator: Mr. Clube Ng Panelists: Invited speakers
4:55p.m. – 5:00p.m.	Closing Remarks	Mr Jonathan LEE, Associate Academic Director, IVE Engineering Discipline of VTC

Poster Session:

1. Fuzzy Ontology for Resource Management in Assistive Care, Dr. A. Fong, Western Michigan University, USA
2. Quality of Service Management in Wearable Heart Rate Measurement, Hugh Luk, Open University of Hong Kong
3. The Role of User Satisfaction Management in Mobile Healthcare, Ms. A. Yeung, m-telligent Ltd., Tokyo, Japan
4. A Microphone Calibration Scheme for Cough Sound Analysis and Diagnosis, Dr. B. Fong, Auckland University of Technology, New Zealand

*Awards will be issued to selected papers/speakers upon the recommendation from Judge Panel. For speakers who would participate in competition for award, please submit paper or PPT on or before 4/March 23:59 to clube.ng@smartcity.org.hk (attention: Clube Ng) for vetting purpose. Format of paper will be IEEE double column and no more than 4 pages. PPT should be no more than 25 page. The Best Presentation Award will also be announced on the event day for the best presentation.