

General Press Statement

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Living in a Smart World - People as Sensors

The 2013 IEEE International Symposium on Technology and Society (ISTAS13) will take place in Toronto, Canada on 27th-29th June. The theme of this conference is "SmartWorlds".

This conference will address smart- smart grids, smart infrastructure, smart homes, smart cars, and smart appliances but also "smart people". "Smart people" interacting with smart infrastructure means that intelligence is driving decisions.

People wearing sensors (e.g. monitoring temperature, physiological characteristics), location data loggers, microphones, cameras, tokens, and other wearable and embeddable systems can see direct benefits for a host of applications including health and well-being, emergencies, convenience, and care-oriented solutions. However, these "[Wearable Computing](#)" technologies and applications have the potential to become controlling applications because they are used to make decisions, generate alerts, log employee movements etc. There are great socio-ethical implications that will stem from these technologies and fresh regulatory and legislative approaches are required to deal with this new environment.

Professor Steve Mann, formerly a member of the [MIT Media Lab](#) under the [guidance](#) of [Nicholas Negroponte](#) in the 1990s is long considered the [Father of Wearable Computing](#) and [AR](#) in this young field. Professor Mann is the General Chair of ISTAS13 and will be speaking in the opening keynote panel with acclaimed Professor of MIT Media Arts and Sciences, [Marvin Minsky](#) who wrote the groundbreaking book *The Society of Mind* and has helped define the field of Artificial Intelligence (AI) among his major contributions.

[Associate Professor Katina Michael](#), Program Chair of ISTAS13 believes the time for discussing wearable computing and augmented reality in every day life is now.

"Widespread diffusion of wearables has not yet occurred and the time for discussing the potential implications of these technologies is now. Law enforcement officers in Australia for instance, are already wearing these always-on recording devices. In-car video recorders have been used officially and unofficially in a number of police forces over the last ten years. What does it mean when the every day citizen puts on the same equipment and presses the record button taking video images of those around them?"

Michael continues:

"Earlier this year [Google](#) launched their [Glass Project](#) in concept. They believe they will be going to market by 2014. [Apple](#) and a number of other smaller suppliers are also developing this new technology at rapid speed. Are we ready for this explosion in personal recording devices that log the world around us? This is a particularly pertinent question for those people who will not be adopters of the technology. There is an asymmetric power relationship

between wearers and non wearers. The law lags far behind in Australia and most other jurisdictions.”

In fact, according to [Professor Roger Clarke](#) who spoke at an Australian [national workshop](#) in February 2012 and is the Chair of the [Australian Privacy Foundation](#), some regulations do exist to address the question of point of view technologies in various Surveillance Device Acts in Australia- as in whether or not it is acceptable to record others on audio or video in public, but these laws have not been widely enforced by police. Professor Michael says that since the proliferation of smart phones people have become the cameras. “We have witnessed now in several occasions, such as the Vancouver Riots, the London Riots, and more recently the Israeli-Palestinian conflict the use of social media for distributing this rich multimedia content is a strong force to be reckoned with.”

[Mr Alexander Hayes](#), a PhD candidate in the Faculty of Informatics at the University of Wollongong is studying the social implications of using point of view technologies in an every day training and education context. Hayes is especially interested in the effects of location-enabled body worn wearables and is presently conducting interviews with lead cross-sector and trans-disciplinary representatives who may also be attending this event.

There are a number of homegrown organisations in the field of headcams and eyeglass cams, software applications in the augmented reality (AR) space that are also getting involved in ISTAS13. These organisations are beginning to create an institutional framework, coming together to share their respective developments, and are very interested to get involved in the conference.

Professor Michael hopes that the meeting in Toronto will mean proactive solutions for impending social implications. “Usually civil societies are in reactive mode. A technology is unleashed onto the market. Civil societies are usually backpedalling to provide feedback after diffusion. We have to switch this reactive model into a proactive one that allows feedback from consumers early in the development process. In fact, user-centric engineering can come a long way into building in safeguards both into the technology, and surrounding social frameworks that people should adhere to.”

Innovation is the foundation of our world - we cannot stop it - but we can certainly enhance the way we do things. The new rapid deployment model for first mover advantage has its obvious advantages for those who are developing the technology but what of the repercussions of the applications on consumers?

We cannot just rely on criminal and civil laws to protect citizens. We need to educate people before the misuse of these technologies. For instance, when is it appropriate to be filming people in public spaces? Simply when they come into our field of view (FOV)? How does this differ from the CCTV cameras that are constantly on?

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