

Controlling technology

Research

Katina Michael is a Senior Lecturer in the School of Information Systems and Technology, Faculty of Informatics, University of Wollongong. Her latest book, co-authored by her husband Dr MG Michael, examines the social and ethical implications of surveillance technologies.

Automatic Identification and Location-Based Services: from Bar Codes to Chip Implants (Information Science Reference, 2009) is a 500+ page reference book that emphasises the convergence and trajectory of automatic identification and location-based services toward chip implants and real-time positioning capabilities.

Automatic identification (auto-ID) is the act of identifying a living or non-living thing without direct human intervention. Location-based services (LBS) is the ability for an information system to denote the position of a user, based on a device they are carrying or their position in a given context.

Recording the history of automatic identification from manual to automatic techniques (eg tattoos, barcodes and biometrics), this book also discusses the social, cultural and ethical implications of the technological possibilities with respect to national security initiatives.

The book co-authored with honorary senior fellow Dr MG Michael is one of the first academic books to address the potential use of microchip implants for commercial applications, outside the medical domain.

Instead of the traditional use of beneath-the-skin chips for prosthetic devices such as heart pacemakers, this detailed empirical study on microchip implants focuses on the potential for use-cases in access control, electronic health record identifiers and

e-payment systems.

Being able to imply someone's identity by their very location is extremely powerful, with critical implications for law enforcement and emergency services.

Indeed this book is about the social implications of technology, and how new emerging innovations are completely changing the rules of engagement.

The book will be of interest not only to technologists, but also scholars, policy makers and advisors, legal and regulatory bodies. Yet the book is accessible by the wider community, and can also be used to raise public awareness about the potential social implications of emerging technologies.

The book was largely written during a time of global geo-political and economic turbulence when the world witnessed a rise in a new kind of terrorism and also large-scale natural disasters.

In this time of evident technological advancement, many questioned why in such a period of rapid scientific progress we were so incapable of responding to such catastrophic events as the Hurricane Katrina disaster of 2005.

Government agencies, whether in the business of strategic intelligence or emergency management or securitisation are seeking new ways to protect their nation's borders. In doing so, they have turned to technology for the answers.

For now the ID trajectory



University of Wollongong academics Dr Katina Michael and Dr MG Michael have co-authored a book about the social impact of surveillance technologies.

appears to be one of aiming to control the masses using technologies innovators have created and instituted.

The question is whether this is the kind of environment we want to live in, filled with smart sensors, smart objects and real-time analytics.

On face value, most perceive competitive advantages in terms of cost savings in business or at least emphasise the convenience factor for the individual or family.

Wouldn't it be a great life if I could walk up to my house door and not have to fiddle with keys to gain entry? Or if my office space could gauge my desired level of comfort and adjust settings accordingly? Or better still wouldn't it be great if I could just communicate with others

just by thinking about them, and never have to lift a handset? Or even know the whereabouts of my children at all times!

All these kinds of potential lifestyle options seem great but what of the continual decline of the individual to live, act, and to make decisions within a discernible physical space? Have we seriously considered the extensive implications this "new order" of existence might have on our general well-being?

And these are real consequences (not simply imagined ones) both on the physical and mental levels. Are we trying to convince ourselves that such things are the "Holy Grail" to contentment, to happiness, to the idealised, if not *ideal* life? The consequences of these

initiatives will take some time to be felt but already we can predict with some confidence some of the shortfalls.

Postmodernist theory might have us believe that the profession of history is in crisis and that its methods are outmoded, but as Richard Evans and others have effectively argued, the discipline can teach us many lessons and provide us with genuine insights.

And in the context of technology itself, thinkers in the sociological tradition of Lewis Mumford and Jacques Ellul continue to challenge us to stop for a moment and to critically evaluate the unchecked consequences upon our civilisation of an "artificial environment".

Whatever road is taken, the irreversible consequences will

be felt by future generations. This is perhaps a traditional problem that has less to do with technology and more to do with people.

Are we continually building new defences with a "catch me if you can" attitude, and "here, try penetrating my latest solutions", or are we genuine about peaceful resolutions which look at the root causes of national security concerns?

The question is how much room are we truly leaving ourselves for future modification and change, if we go ahead and implement what we are proposing today?

For the record, no one is debunking technology. The point is to remain the masters over that which we create, and to not allow for the "machine" to dictate the terms and boundaries of our existence.

Q & A

Are you getting anywhere?

When you see national and international linkages in the form of cross-institutional collaborative efforts with real tangible outputs, you know you must be getting somewhere. Collaborations take years to develop - you need to understand what it is you wish to contribute, how you fit into your academic institution and wider context of national innovation, and how you might play a part in the international arena.

Best part of your research? I enjoy working with people - mentoring young scholars, collaborating with colleagues, ongoing education and helping break new ground. Next year I am excited about our hosting the

26th IEEE International Symposium on Technology and Society at the University of Wollongong on the theme of the social implications of emerging technologies. It is the first time academics across disciplines and countries will come together to discuss the socio-ethical implications of the potential use of microchip implants in humans, commercial location-based services and social networking technologies.

Funniest moment: I was at an e-commerce conference in Chile in 2005 which had real-time translations of presentations (eg Spanish-to-English, English-to-Spanish). I decided I would try my hand at some Spanish and caught

the translators off-guard completely, to the amusement of the audience. **Ugiest moment:** I've had a few while working in industry and much of this had to do with politics related to vendor-customer contract obligations. But in academia I cannot recollect a single ugly moment.

Have you had a true "Eureka! I've found it!" experience? Yes, helping conceptualise the term "uberveillance" with MG Michael. It was voted Macquarie Online Dictionary Word of the Year in the technology category in 2008. That surprise still seems a little surreal.

Has it made you rich? Not in dollar terms but it has

contributed to raising public awareness about the implications of technology on society. When you receive messages of support outside academia you know you are striking a chord with your research. MG and I have been cited in government departmental reports, asked to give evidence in court cases on electronic surveillance, participated in federal government round tables, including international reference citations in *Forbes Magazine*, *New York Times*, *LapTop Magazine*, *National Post* and ABC America. The fact that uberveillance has now entered every-day language means people can relate to it.

What did you want to be

when you were a kid? I loved participating in theatrical productions a lot - to some degree academics are in theatre ... lecturers should put on real performances when delivering their lectures to invite the audience to reflect on the subject matter more meaningfully. We shouldn't be teaching our students to be parrots but to be critical thinkers who can interpret. **Has your career followed a straight line?** No, I have not had the typical academic career path but far from having halted my progress, this non-traditional entry has made my perspectives multi-dimensional and transdisciplinary. **What would you change?** If

I could, the number of hours in the day!

Advice for young researchers? University years are what you make of them. Take advantage of every opportunity to become a part of extra-curricular activities. It will help make you a well-rounded person and provide a balance between work, study and social life.

Next adventure? Well, we've just finished a 500+ page reference book. The next adventure is a secret but I can say it's a *sequel* of sorts.

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Final comment: "Day by day."