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PrivacyCon Organizing Committee
Federal Trade Commission
600 Penn. Ave. NW
Washington, DC 20580
Re: Request to Participate in PrivacyCon, January 14, 2016

To Whom It May Concern:

Name: Dr. Thomas P. Keenan, FCIPS, I.S.P., ITCP
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I am interested in presenting my work on consumer perceptions of privacy at PrivacyCon. My current research centers around how people decide if a new technology is "cool or creepy?" It fits well into the *Attitudes, Perceptions, and Incentives* topic in the Call for Presentations.

My experience in this area springs from a long career in software development stretching back to the 1960s when I worked on the earliest mainframe computers at Columbia University, Princeton University, and New York University. I bring a long-term perspective but am also fairly obsessive about keeping up with current developments in the interface between technology and society, especially in the area of privacy. I have presented research on this topic at major conferences including DEF CON, Black Hat (Asia and USA), H.O.P.E., New York State Cybersecurity Conference, and the 2015 RSA Conference.

Since 1976, I have been a professor and researcher at the University of Calgary. I won the 2013 NSERC Award for Science Promotion (1 individual winner, $10,000 prize) for my work in bringing complex issues around technology and society to the public in an understandable way. My outreach work includes the award-winning CBC Radio IDEAS documentary series "Crimes of the Future," which I co-wrote and presented. I also published a book on this subject, *Technocreep*, in 2014. It has reached #1 in several categories on Amazon.ca including Civil Rights and Liberties and been widely and positively reviewed. A full year after its publication, *Technocreep* is currently #33 in Technology and Society in the Kindle store. See http://www.amazon.ca/Technocreep-Surrender-Privacy-Capitalization-Intimacy-ebook/dp/B00NE6QYP2/ref=sr_1_1?s=digital-text&ie=UTF8&qid=1444443693&sr=1-1&keywords=technocreep

In researching and writing *Technocreep,* I studied a wide range of information and computer technologies, as well as some biological ones, from the viewpoint of perceived creepiness. I was able to create a framework (Appendix A on the Black Hat white paper attached) to guide software developers and designers in making their software effective while avoiding perceived creepiness. It has been presented and discussed at IBM T.J. Watson Research Center, the Office of the CTO of Cisco Systems, Inc. and numerous other venues, and has been found useful by many people. It is, of course a work in progress. While aspects of these "dimensions of creepiness" have certainly been written about elsewhere, this research in unique in bringing them together in a clear and understandable way that can actually be used by designers and software engineers.

Given the brevity of the presentations at PrivacyCon, I propose to focus on how this framework can be used to assess new developments in biometric identification technologies, and to predict consumer acceptance. While situated in the *Attitudes, Perceptions, and Incentives* theme, this topic also interfaces with other areas of interest at PrivacyCon included *Connected Health* and the *Internet of Things*.

Thank you very much for your consideration.

Thomas P. Keenan

Abstract: The Body as Information – What You Don't Know Can Hurt You

Technology that identifies you by "something you are" is showing up in e-passports, laptop login screens, smart firearms and even consumer products like the iPhone. Current generation systems generally use static biometric features such as fingerprints, iris scans and facial recognition, either measured directly or mediated through a device such as a smartphone.

We're on the cusp of a revolution that will usher in dynamic (e.g., gestural, heart rhythm, gait analysis) and chemical (e.g., DNA, body odor, perspiration) biometrics. There will also be hybrid technologies such as the Nokia's vibrating magnetic ink tattoos (US Patent 8,766,784) and the password pill from Proteus Digital Health. Biometrics will also play an increasingly significant role as one of the factors in multi-factor authentication. The author created one of the first typing rhythm recognition algorithms and one of the earliest DNA sequencing machines in the 1980s and has a long term perspective on this subject.

Soon, through TouchDNA technology, those few skin cells that you leave behind on the pin pad at a store may be used to identify you, track you, analyze you, and market to you. Commercial labs and forensic investigators are already using TouchDNA (www.bodetech.com/forensic-solutions/dna-technologies/touch-dna/) Laws, regulations, and consumer awareness are all lagging behind the rapid pace of new developments in this field.

This presentation explores cutting edge biometric technologies and provides a research-based framework for evaluating them from the perspectives of security, reliability, privacy, potential for abuse and "perceived creepiness". Existing and proposed technologies are plotted on seven axes of creepiness, allowing designers to anticipate, and hopefully avoid, creepy privacy blunders.