PHOTO BY KEVIN LEONG

The Wired Wizard

Steve Mann Makes Technology Personal

BY RAYMOND COHEN AND JACLYN LAW

Meet Steve Mann, director of the EyeTap Personal Imaging Lab (ePI Lab) and a professor at the University of Toronto. He's also a living, breathing cyborg—defined by the Oxford Canadian Dictionary as "a person whose physical abilities are extended by machine technology."

Mann says he has always been interested in expanding the mind and body using technology. Indeed, he is the author (with Hal Niedzviecki) of *Cyborg: Digital Destiny and Human Possibility in the Age of the Wearable Computer*. Mann completed his Ph.D at the Massachusetts Institute of Technology (MIT), where he founded the wearable computing group as a part of the MIT Media Lab. At MIT, Mann deepened his knowledge of personal imaging by working with photography pioneer Dr. Harold Edgerton, who invented the electronic flash and stroboscope.

Mann is rarely seen without his EyeTap computerized eyeglasses, which he invented. "In effect, they cause the eye to function as both a camera-type imaging system as well as a display-type system," Mann explains. "They correct for things like visual memory deficiencies. For example, if you have trouble associating visual information such as names and faces, the eyeglasses can print out the name of somebody in fairly large letters the next time you meet them. Or, if you get easily lost, it can help in terms of way-finding."

Mann looks right at home among the gadgets and grad students at the ePI Lab. Founded by Mann in 1998, it was formerly known as the Humanistic Intelligence Laboratory (HI Lab) at the University of Toronto. Its mandate is to research wearable computing and cybernetic concepts and turn them into practical, market-driven products and processes. Mann's team hopes to develop a new generation of personal imaging solutions and mediated reality interfaces, and also to overcome the challenges of living in an information-saturated world.

"Eyeglass-based computing is one form of body-worn computing," says Mann. "In the 1980s, I also invented smart fabrics – cloth that's computational. There are electric circuits embedded in fabrics that provide assistive technology and other forms of way-finding."

For example, Mann adds, fabrics can "tell" a person with a vision disability when he or she is approaching an object. "Some of the fabrics included conductive materials that send out electric fields that