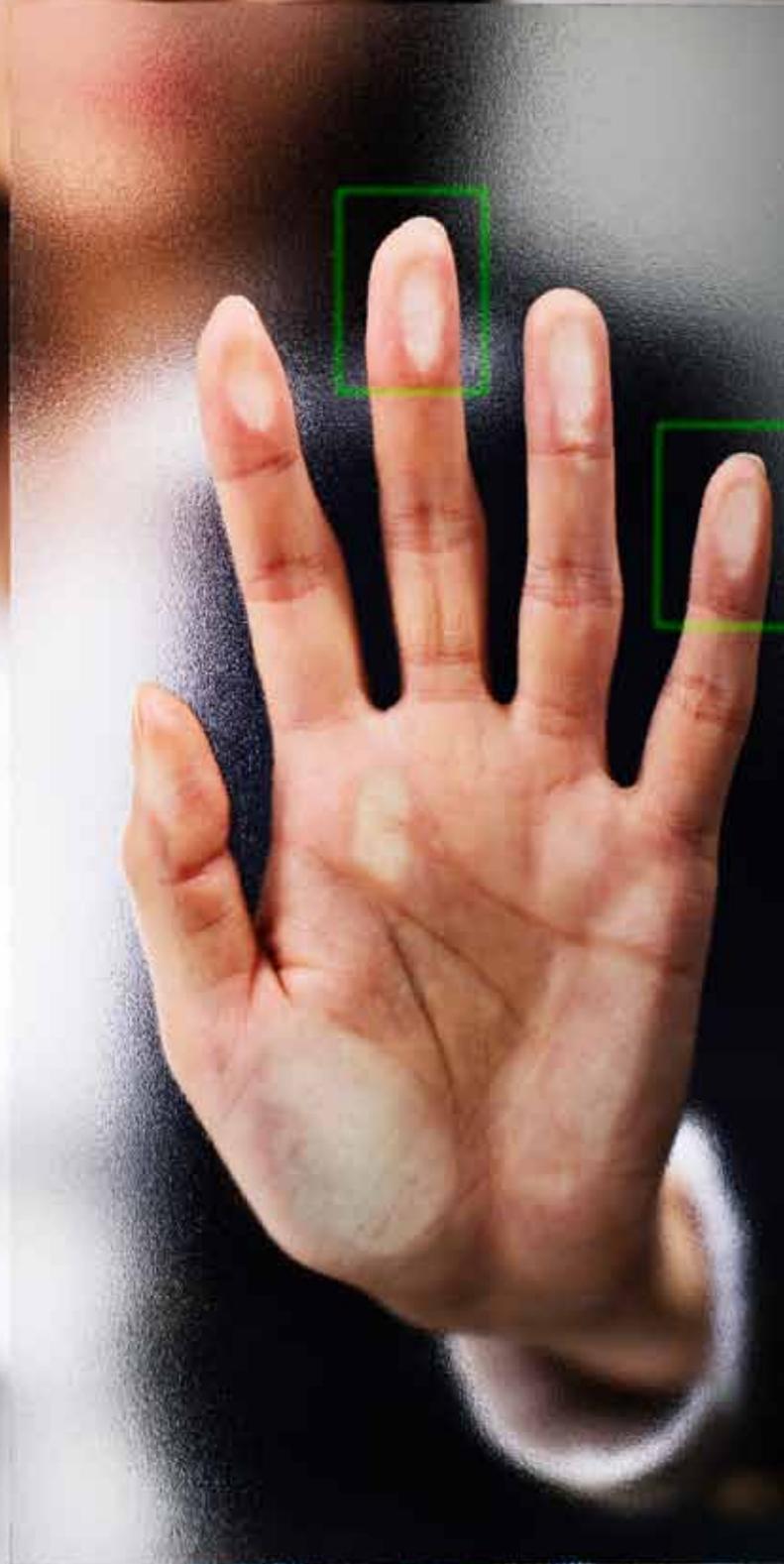


Improving Safety and Security on the Internet

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Sonia Chiasson, PhD
*Carleton University's
Canada Research Chair
in Human-Oriented
Computer Security*



Sonia Chiasson is Creating a Strong Defence System for Internet Security

Internet privacy and security remain a vague, undefined threat for many online users until they have experienced identify theft, their personal computers are compromised or they become a victim of fraud.

The Internet is the single largest vehicle for fraud loss in Canada. In fact, Canadian victims of Internet solicitations report millions of dollars in total losses every year.

Sonia Chiasson's specialty is computer security but her research entails a highly complex approach requiring technical security expertise, interaction design skills, and understanding psychological and societal factors involved.

In computer security, varying age groups have different concepts of good defence or how to adapt to technology threats. Chiasson's studies have found that security and privacy consequences are simply not understood by Internet users particularly amid the growing trend towards sharing personal and private details online. Many may not even be aware how their information is collected and distributed to an international audience.

Chiasson is tackling the problem on several fronts such as investigating mental models – based on personal experiences that people use to understand new situations and make decisions. Well-designed warning models would be prototyped and tested to produce material that would eventually lead to new industry standards for Internet security.

Chiasson's research has already led to quick-to-read educational material about how Internet attacks work and why protective action is required against malware, which infects the computer and may steal personal information automatically.

“Our research is about how strong privacy and Internet security involves more than technology. As researchers, we also need to design systems to ensure Canadians are alert and well-informed digital citizens.”

While anti-malware offers some protection, online information is nearly impossible to recover once it is collected and shared worldwide.

One major Canadian telecommunications company and the Government of Canada are interested in the research underway with Chiasson at Carleton University's Human-Oriented Research in Usable Security (CHORUS) laboratory.

THE RESEARCH

What I do

Explore, design and test new methods of safeguarding privacy and computer security in relation to human-computer interaction.

Why it matters

Computer systems need to be designed to fit into the daily lives of users while ensuring privacy and security protection. Education will also help overcome poor awareness of privacy and Internet security issues, which can lead to identity theft and large personal losses through Internet fraud.

What it will change

Improved security designs to help guard personal credentials and enable a better understanding of privacy and security decisions, including how malware protection works to prevent a secret, remote attack on personal computers.

THE RESEARCHER

2014-2018 Deputy Director of the Knowledge Mobilization Network (NCE-KM) on Smart Cybersecurity (SERENE).

2013-2014 NSERC Digital Surface Software Application Network (Surfnet) Special Project to adapt CAPTCHAS for Smartphone usage.

2010-2015 NSERC Digital Surface Software Application Network (Surfnet) to adapt CAPTCHAS for smartphone usage.

2012-2017 Natural Sciences and Engineering Research Council Discovery Grant to explore and create usable security.

2013 Canada Foundation for Innovation Leaders Opportunity Fund and Ontario Ministry of Economic Development and Innovation (Ontario Research Fund) to acquire research infrastructure at Carleton University's Human-Oriented Research in Usable Security (CHORUS) laboratory.

2013-2014 Office of the Privacy Commissioner of Canada grant to improve mental models of security and privacy through visualizations.

PARTNERS

Natural Sciences and Engineering Research Council (Surfnet) Strategic Network, Officer of the Privacy Commissioner of Canada, CGI, Public Safety Canada.

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“According to a 2009 Statistics Canada report, two-thirds of internet users reported that they had been impacted by malware.”