



Dr. Mihaela Ulieru, Canada Research Chair in adaptive information infrastructures for the e-society at the University of New Brunswick and Austrian university academic Dietmar Dietrich, a Harrison McCain Foundation visiting professor at UNB

Researchers hope to help computers think like humans

DAVID SHIPLEY
TELEGRAPH-JOURNAL

A researcher at the University of New Brunswick is part of an international effort to help machines and computer networks think like humans.

Mihaela Ulieru, the Canada Research Chair in adaptive information infrastructures for the e-society and a professor in UNB Fredericton's faculty of Computer Science, is hoping to incorporate the human ability to think into computers and networks.

Biological networks, she said, self-organize and when placed in a critical situation, they can choose to either collapse or reorganize into a higher level of intelligence.

"That is evolution," she says as she quickly dives into describing the highly technical and sophisticated science. Ulieru's research, which focuses on creating networks that can think, is being assisted by the work of Dietmar Dietrich, head of the Institute of Computer Technology at Vienna University of Technology.

Dietrich is also a Harrison McCain Foundation visiting professor at UNB.

He was in Fredericton this week to deliver a talk on his latest research.

"What he's doing now is taking the vision of Sigmund Freud. He's looking at what's driving us as humans and now he's thinking why not build this sort of intelligence into machines?" said Ulieru.

"Emotions, drives and desires are not yet explained scientifically and he wants to tackle that edge of the human intelligence and bring it into models and into the machines."

Dietrich's work uses neuro-psychoanalysis, the use of both psychology and biology, to understand how the brain works.

Dietrich said he's been working on understanding the human brain and how it can be adapted to machines for six years.

"The results of artificial intelligence or cognitive computing are not enough," he said. "We have to find a paradigm shift in this area and that's why I'm looking at the neuro-psychoanalytic model."

Engineers looking to develop intelligent machines shouldn't be trying to re-invent the wheel, he said. Rather, they should build on the work being done by neuro-psychoanalytic scientists. "They have brilliant solutions, especially in the last 10 years," he said.

Dietrich said he's hoping a conference this summer, which he's organizing along with Ulieru and others, will help build support in the scientific community for this kind of research.

The first international engineering and neuro-psychoanalysis conference, titled "Emulating the Mind" will be held in Vienna in July. Understanding why and how the human brain works scientifically will allow it to be emulated, said Ulieru.

This emulation can be used to create intelligent machines, she added. "Once we have this sort of understanding of the brain as a network, (we can) also design better and more intelligent networks."

Those networks will in turn help improve safety and security for humans, she said. "With regard to Atlantic Canada, it will enhance our security and safety, for example it will reduce power failures," said Ulieru.

"When a power outage is imminent, instead of collapsing the system (it can instead) self organize and evolve to a higher level of resilience."

The research into futuristic networks that can think and adapt will benefit not only the electrical system, it could also be a boon to factories as well as communications systems, she said.

The leading-edge research being done in New Brunswick will also benefit the provincial economy, she said. "It will also help us become players in the global economy," she said. "The world is coming to us, which will create not only more visibility but more jobs and more researchers coming here."

iPhone in U.S. next week, but when in Canada?

PAUL MARCK
CANWEST NEWS SERVICE

EDMONTON — Gotta have Apple Inc.'s iPhone? Talk to Colm Over or Darcy Smith at Cellular FX & Repair in Edmonton. No, they don't have any of the most talked about and-hyped gadgets since the ubiquitous iPod.

But they will be among the first with the newest tech toy, even though a Canadian launch date hasn't been announced for iPhone. The iPhone rockets into the U.S. market next Friday. "I'm told mid-July, late July is when to expect them," says Over, who sells "unlocked" cellphones that are not connected to specific networks or cell companies.

People buy unlocked GSM phones if they travel a lot or simply want the latest phones ahead of Rogers and Fido. As an independent retailer,

Over usually gets new phones three months ahead of big-name carriers. The iPhone has created such a buzz in the U.S. that even comedian Stephen Colbert has joked about his inability to get one ahead of everybody else, and a Craigslist ad has reportedly offered \$10,000 to get an iPhone right now.

No Canadian service provider has been announced to carry iPhone. Internet blog sites are alive with buzz that Rogers is trying to get an iPhone deal, but Apple is too busy with next week's U.S. kickoff to get anything going yet in Canada.

Rogers and Apple Canada are both mum on the subject of iPhone, which uses global GSM technology. Neither Telus nor Bell's networks are GSM compatible.

Since the iPhone was introduced by Apple CEO Steve Jobs at March's MacWorld convention, buzz has grown about the touch-screen phone that has no keypad and only a single button. It doubles as an iPod music player and web device, with other leading features to put it into a category of its own.

People have been calling for months about iPhone's availability in Edmonton, says Over. "It's getting to be crazy," he says. The July availability to take pre-sale orders is the best advice Over has heard so far.

Vicken Kana jian, an electronics and cellphone wholesaler in Montreal, says he's banking on a summer Canadian release for iPhone in Canada. "You can't expect the iPhone before the end of July, that's what we hear," says Kana jian.

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