

IEEE NEWSLETTER KITCHENER-WATERLOO SECTION

November 2000

Meetings

Please mark these dates on your calendar

- November 15 University of Waterloo Mathematics building MC1085
Annual General Meeting: Martyn Exon on Primary Radar page 3
- November 23 University of Waterloo Davis Centre DC
Panel Discussion: The Ethics of Downloading MP3 Audio page 3

Feature articles

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- News from Industry page 4 Giving the Doctor a Needle page 5

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EDITORIAL

As the year draws to a close, it is time for our Section to report on its activities at an Annual General Meeting - this year on Wednesday November 15. Our executive was elected last year for two year terms, so no election will be held, but we will hear brief reports about the year=s activities.

Then there will be a presentation on Primary Radar, by Martyn Exon, who will describe it in language everyone can understand. Come with your spouse or friend - they will find it a fascinating story.

The event will be in the Mathematics building of UW, not the Davis Centre.

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SECTION ANNUAL GENERAL MEETING 15 NOVEMBER 2000

Date: Wednesday 15th November **Time:** 5.30 pm
Place: University of Waterloo **Mathematics Building** room MC 1085
Note that spouses and friends are invited.

1. Annual general meeting. Since the executive were elected for a two year term starting 1 January 2000, no elections will be held. The officers will report on the activities of the section for the past year.
2. Talk by Martyn Exon on Primary Radar. – see below.
3. Presentation of plaques to Senior Members

Subject: Primary Surveillance Radar

Speaker: Martyn Exon, Raytheon Systems Canada Limited

Raytheon Canada had the greatest share of the world market for Air Traffic Control Radar in 1999. Martin Exon is responsible for the design of these radars, and will describe, in terms which we can all understand, what they are like, how they work and what they can do.

Bring your spouse or friend.

The Mathematics building is the large square grey building behind the Davis Centre.

COMPUTER CHAPTER PANEL DISCUSSION 23 NOVEMBER ON THE LEGALITY OF DISTRIBUTING MP3 MUSIC

Date: Thursday 23rd November 2000 **Time:** 5.00 pm
Place : University of Waterloo Davis Centre, room DC1351
Subject: The Legality of MP3 Distribution: a Panel Discussion
Panel Members: Prof. Yang, Prof Wang, Joseph Fung

Subject: MP3 technology is changing the way in which music is being distributed.

With new compression techniques coming down the road, this will soon extend to other media as well. Companies such as Napster are challenging conventional notions of ownership and copyrights for music.

This is an open forum for engineers to discuss the ethics of the present situation and to try to find a common ground between opposing viewpoints. Come and present your views.

Panel members include:

Prof. Yang: Prof. Yang's research interests include information theory, grammar-based coding

and multimedia data compression. He will speak on the technical aspects of multi-media data compression.

Prof. Wang: Outside of the university, Prof. Wang has been involved in the music industry for several years. He is part of a group called Critical Mass which recently won Best Rock Album honours at the 22nd Annual Canadian Gospel Music Association Covenant Awards. The group has had a no.1 song on the mp3.com Spiritual Rock Charts. He will be presenting the artist's viewpoints of mp3 distribution.

Joseph Fung: Joseph Fung is a 2nd year Electrical and Computer Engineering student who is an avid Napster user. He will be presenting viewpoints as to why mp3 distribution is a boon to the recording industry.

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NEWS FROM ACADEMIA

The University of Waterloo's Doris Lewis Rare Book Room has received a donation of a letter dated 1759 describing the battle of the Plains of Abraham in Quebec City, written by Rear Admiral Charles Holmes, who carried out the surprise naval raid which tipped the battle in favour of the British troops. The document was donated by Valentine O'Donovan, Chancellor of UW, and co-founder of ComDev.

Premier's Research Excellence Awards were presented to four professors at the University of Waterloo and to one professor at Wilfrid Laurier University. They include Richard Hornsey (who is on the executive of this section) for imaging systems, Timothy Chan for algorithmic techniques in computation geometry and Brendon Frey for research into computer vision. A Martin Walmsley Fellowship for Technological Entrepreneurship was presented to Robert Good: he is part of a UW team which has developed software for searching hundreds of gigabytes of text and passing the result on to the internet.

The University of Waterloo has presented four Engineering Alumni Achievement Awards, including one to Jim Estill, President of EMJ Data Systems of Guelph, and to Ray Alarie, COO of Stantec Consulting's regional office in Kitchener.

NEWS FROM INDUSTRY

Ardesic Corporation of Waterloo will supply its eMarketMinder software to Medexonline of the UK, which is an electronic marketplace for personnel such as medical professionals and health-care managers.

ComDev has acquired the rights to use high-speed data transmission CDMA technology from Qualcomm, in exchange for shares in ComDev. (CDMA is Code Division Multiple Access, otherwise known as spread spectrum.) The company has raised \$31M financing for developing the high speed system. ComDev International has moved the headquarters of its wireless division to Richardson, Texas (near Dallas) from Dunstable, England. In a recent contract said to be worth \$25M, the company is to supply multiplexers and switches for two new Intelsat satellites, through Astrium NV.

Dalsa Corp of Waterloo offers new line scan cameras with resolutions up to 8192 pixels, and a line scan camera with sensitivity 100 times that of conventional cameras, at a resolution of 2048 pixels, reducing lighting requirements and increasing depth of focus. Toshiba Engineering of Japan has placed a contract with Dalsa worth over \$1 million for tiny inspection cameras called SPYDER.

Finline Technologies Ltd of Waterloo has signed a letter of intent with IP Flex Inc of Japan to develop a silicon processor. The ultra high speed processor, in IP Flex ' s semiconductor technology, will use Finline ' s wavelet compression technology.

Joyce Hollingworth of Waterloo heads a group of teachers that teach English as a Second Language to employees of local companies. The people that the companies have hired come from other countries, including China, the Czech republic, Poland and Russia. The companies pay for the lessons.

Inscriber Technology of Waterloo has won a Star 2000 award for its C2i and A2i devices that convert TV graphic files into Inscriber format. The awards are presented by TV Technology magazine of the USA.

NCR ' s operation in Waterloo will supply 50,000 Automatic Banking Machines to Credit Card Center of Philadelphia over three and a half years. This is more than the number of ABMs built in the last five years.

Pixstream Incorporated of Waterloo is to provide switched digital TV equipment to Telenor Norway for digital TV trials. Pixstream is being acquired for \$554M Cdn by Cisco Systems of California, which intends to keep the operation in Waterloo. It is

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being sued by Unique Broadband Systems Inc. of Concord, Ontario, for half a billion dollars: Unique claims that Pixstream was obligated to develop technology for them.

Research In Motion (RIM)=s Blackberry e-mail pager is being used by American presidential candidate Al Gore and his team. His wife, Tipper, uses it rather than competing products Rolodex and Palm Pilot. Kitchener and Waterloo city councillors use them for business. RIM supplies Blackberry pagers to many wireless networks, including Bell Mobility, Rogers, BellSouth (USA), and they are to be tried in the UK by BT Cellnet. Motient Corp. of Reston, Virginia has bought 50,000 Blackberries.

Surrealty Corp. of Kitchener has recently generated images of the interiors of Bombardier aircraft to provide virtual tours which Bombardier uses for marketing. Other customers are the Skydome in Toronto and the University of Waterloo.

Vertical Sky, an offshoot of MKS of Waterloo, has moved into a new custom designed building in

the Waterloo Technology Campus, on the east side of Albert Street, north of Columbia Street.

NEWS FROM THE INTERNET

At a recent Sotheby=s auction on the internet, Norman Lear, a television producer bid \$7.4M US, and won a copy of the American Declaration of Independence. The auction lasted nearly nine hours, and about two dozen bids were received.

If you cannot get to a funeral for an acquaintance, don=t give up. A few funeral homes in Ontario are showing a video of the service on the internet if the family has agreed, so you can watch it on your own computer if you have high speed access. Infinite Design Software Inc.of Burlington, Ontario handles it. See www.funeral-cast.com.

In England, garden plots (called allotments) are very popular with city dwellers who do not have a garden at their home, and they spend many hours sowing and growing vegetables on them. But even if there is not an allotment available within practical distance, they can have one through the internet. For 495 pounds per year, the managers of this service do the sowing and growing: the subscriber gets a picture and report over the internet, gives instructions as to the seeds to sow and treatment to be given, and the managers harvest and deliver the crop. See www.myveggiepatch.com.

Japan is way behind in its use of the Internet. Only 11 % of households have access: it is very low speed and telephone companies charge for every call. E-commerce must be backed up by paper documents. A task force proposes a new five year plan by which high-speed fibre-optic cables will be installed and obstructions to internet commerce removed.

GIVING THE DOCTOR A NEEDLE

Several years ago, Margaret Davidson of Montreal was having trouble with her knees. Her family physician made an appointment for her with a specialist.

She arrived for her appointment, changed into an examination gown and was ushered into the examination room. She sat on the table for a long time, then the doctor came in: he ignored her and sat at a desk shuffling papers. After another long wait, to break the silence, she said "I see you have been appointed to be an Assistant Professor at McGill University". Without looking up, he remarked "Yes, but how did you know that? Are you connected with the University?" She replied "I am on the Board of Governors".

That got his attention.