



Early-bird registration now open for 2007 Ontario R&E Summit



Registration is now open for all early birds for the 2007 Ontario Research and Education (R&E) Summit, June 4 – 5, 2007, at the MaRS Discovery District in downtown Toronto. Hosted by ORION, the fourth annual Summit is Ontario's premier conference bringing together leaders and innovators in technology, research and education.

Early-bird registrants will receive a discounted rate up until **May 7th**. This year, ORION also offers a special rate to students.

This year's theme is *The Promise of Technology*. The conference will explore topics such as the impact and potential of innovative "cyberinfrastructure" in advancing scientific discovery, research and learning in Ontario. Breakout sessions range from making the connection between youth and science, to applied research, to the latest in teaching and learning technologies. The early program preview is posted on the Summit web site.

Presented in partnership with the MaRS Discovery District, the Summit is a unique opportunity to network with industry experts and to learn more about new ways of using next-generation collaborative technologies to support scientific discovery, innovation, teaching and learning.

For more information and to register online, visit www.orion.on.ca/2007orionsummit.

Read about the new ORION FutureFlick Contest for Ontario students! (page 2)



Speakers & Presenters



Jim Carroll

Jim Carroll, futurist, trends and innovation expert, is one of four keynotes at the 2007 Ontario R&E Summit. A noted author, columnist, consultant, media commentator and speaker, he was named by *Business Week* as one of four leading sources for insight on innovation and creativity. He will give the luncheon keynote on Tuesday,



Dr. Alex Jadad

June 5th. **Rob Pennington**, Deputy Director of the National Center for Supercomputing Applications (NCSA), will give the opening keynote on the morning of Monday, June 4th. **Professor Curtis J. Bonk** from the Instructional Systems Technology Dept. at Indiana University will deliver a keynote on the topic "*How the Learning World Became Flat: Ten Knowledge Sharing and Technology Trends Equalizing Access to Learning*" on the Tuesday morning. **Dr. Alex Jadad**, Chief Innovator and Officer of the Centre for Global eHealth Innovation, will give the closing address on Tuesday, June 5th on "*Humanodes in the Global Superorganism: How technology can help us reach optimum health and wellbeing in the 21st Century.*"



Lisa de Wilde

Walter Stewart, Senior Advisor, Intelligent Infrastructure, CANARIE, will chair the roundtable discussion on cyberinfrastructure Monday, June 4th. Among the breakout session chairs are TVOntario CEO **Lisa de Wilde**; the Jeffrey Skoll Chair in Computer Networks and Innovation at the University of Toronto, **Prof. Alberto Leon-Garcia**; **Dr. Khaled El Emam**, Canada Research Chair, Electronic Health Information at the University of Ottawa; **Maxim Jean-Louis**, President of Contact North/Contact Nord; **Gregory J. Weiler**, Dean of Applied Research, Innovation and University Partnerships at Fanshawe College; and **Bob Gagne**, CIO and Executive Director of Computing and Network Services at York University.

ORION launches FutureFlick Contest for Ontario students

Break out those camera cell phones and let 'em roll: what will it be like to be a student in the year 2020?

ORION recently launched FutureFlick, a new digital video contest aimed at Ontario students. It challenges students at Ontario universities, colleges and schools connected to ORION to produce an original digital short under two minutes depicting their perception of student life in the year 2020. Cash prizes of \$2,500, \$1,500 and \$1,000 will be awarded to the first, second and third place winners, respectively.

"With the ORION FutureFlick Contest, we want to engage young people to think about the world of learning and student life in the post Google, YouTube and Second Life world," said Phil Baker, President/CEO of ORION.

Winning clips will be broadcast globally on the Open Student Television Network (OSTN) and hosted on the ORION Student TV website (www.orion.on.ca/research/orionstudenttv.html).

A judging panel, made up of representatives from the film/TV programs at ORION connected institutions, and a representative from OSTN, is

looking for innovation, creativity, and compelling ideas and visuals; clips will be judged on technical quality and effectiveness in conveying a clear vision. The theme should reflect how future technologies, such as interactive multimedia or learning in 3D immersive environments, will impact student life in the future.

Deadline to enter is midnight, **Thursday, May 17, 2007**.

To learn more, visit www.orion.on.ca/FutureFlick.



Pilot streaming initiative spans three cities and nearly 5,000 km across Canada

HD video installation offers possibilities for real-time collaboration in art & design

The Ontario College of Art & Design (OCAD) recently joined Concordia University in Montreal and Simon Fraser University in Vancouver to concurrently broadcast a live high-definition video stream for 72 consecutive hours over Canada's regional advanced networks, including ORION in Ontario. It's a project they expect will trigger greater real-time collaboration in art and design using new digital technologies.

In Toronto, the digital transmission was on display over a large high definition LCD screen in OCAD's Great Hall at 100 McCaul Street. Similar installations were in place at Concordia and Simon Fraser University, displaying scenic images broadcast live in digital HD to and from Vancouver, Toronto and Montreal.



The east-west transmission over Internet Protocol (IP) streamed dual sets of data at 25 megabits per second, for a combined 50 Mbps. OCAD sent the native HDV stream across the research network without any re-compression of the camera's HDV Fire-wire output. The demo used relatively accessible equipment, such as the Sony HDR-HC3 HDV video cameras, with a special MPEG-2 Transport stream that can be streamed using Video Lan Client (VLC), a free and open-source software.

The event was the first pilot project of a high-definition streaming consortium, led by OCAD, involving seven other universities from across Canada, looking at the adoption of HD streaming by the cultural and arts and design communities.

For more information, visit: <http://www.orion.on.ca/news/pdf/OCAD-ORIONHDStreamingInitiative.pdf>.

ORION Research and Discovery News

The ORION Research and Discovery News provides news and information of interest to users of the Ontario Research and Innovation Optical Network and to the worldwide research and education community.

ORION is an advanced high-speed fibre optic network that connects research and education institutions to each other and to colleagues around the world.

ORION is owned and operated by the Optical Regional Advanced Network of Ontario (ORANO).

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CANARIE receives \$120M in funding, announces network name change

The recent federal budget had positive news for CANARIE, when it included \$120 million in funding for the organization.

CANARIE plans to update and enhance CAnet 4, building on technologies introduced over the past few years. There are also plans to rename the network. Although it is referred to as CAnet 5 in Budget documents, both the organization and the network will have the single CANARIE brand, a change that will be rolled out in the coming months. Under the new funding agreement, CANARIE will receive \$24 million or one fifth of its new allocation in FY07-08, and will draw upon the remainder on an as-needed basis.

"This is very good news for us and the research community," CANARIE president and CEO, Dr. Andrew Bjerring told *Research Money*. "We will focus more on advanced networking technologies and the continued evolution of the network."

"This is good news," said Phil Baker, ORION President/CEO. "Research and education networks across Canada in the provinces and territories can rest easier now that CANARIE will connect all of us to one another and to colleagues around the world."

For more information, please visit <http://www.budget.gc.ca/2007>.

Approaching deadline to submit a nomination for an ORION Award

Sharpen those pencils... the ORION Award deadline is right around the corner. **Friday, April 20th** is the last day to submit a nomination in one of three categories: Learning, Discovery or Leadership.

Each year, ORION invites innovators and leaders in research and education to submit a nomination to the Awards to recognize their efforts as champions of advanced networks and collaborative technologies in scientific research, teaching and learning.

ORION Award winners and nominees come from many fields, such as physics, engineering, medical research, architecture and design, teaching and learning, and others.



A panel of judges with representation from the ORION stakeholder community will review submissions and select winners.

The awards will be announced at a reception and ceremony on Monday, June 4, 2007, in the Atrium of the MaRS Discovery District in downtown Toronto during the 2007 Ontario R&E Summit. To submit a nomination, please visit www.orion.on.ca/2007orionawards/.

Order of Canada honours Ontario innovators

A pioneer in Canadian Internet technologies and an ORION Award winner have both recently been honoured by the Governor General by being named Officers of the Order of Canada. **Dr. Nicolas D. Georganas** and **Dr. Arthur B. McDonald** were two of the 89 new appointments to the Order of Canada.

For decades, Professor Nicolas Georganas has been breaking new ground in the fields of collaborative virtual reality, interactive multimedia, computer networks and wireless communications for handheld Internet appliances. In 1997, Dr. Georganas established DISCOVER, a research laboratory of collective research on haptic-virtual environments, and is also the founder (1984) and past director of the Multimedia Communications Research Laboratory (MCRLab) at the University of Ottawa's School of Information Technology and Engineering (SITE).



Prof. Georganas' previous multimedia research at the MCRLab resulted in a multimedia medical communications prototype (IRIS), which linked the radiology and emergency medicine departments in the Civic campus and the cancer wards at the Civic and General campuses of the Ottawa Hospital (1989), and was also used at the University of Ottawa Heart Institute (1990). In 2001, he was appointed Distinguished University Professor and received the Order of Ontario, the province's highest and most prestigious honour. From 2001 to 2005, he held a Canada Research Chair in Information Technology.

Professor Art McDonald, the Gordon and Patricia Gray Chair in Particle Astrophysics at Queen's University, is recognized for his lifetime scientific contributions in the field of nuclear physics and particle astrophysics. He is the director of the Sudbury Neutrino Observatory (SNO), the world's deepest underground laboratory located at Inco Ltd.'s Creighton nickel mine near Sudbury. Prof. McDonald was awarded an ORION Award in 2006 on behalf of the SNO team.

The international SNO team, including many Queen's faculty, graduate and undergraduate students over the years, discovered that solar neutrinos – weakly interacting subatomic particles produced in the core of the Sun – change into other neutrino types en route to Earth. This discovery, which solved the 30-year old "Solar Neutrino Problem" and confirmed that neutrinos must have mass – was ranked the second most important scientific breakthrough in the world in 2001 by the international journal *Science*. For more information, visit <http://www.gg.ca/media/>.



The ORION Showcase is a new section of the ORION Research and Discovery News that spotlights how connected institutions and organizations are using ORION to enhance research, teaching and learning in Ontario.

Seneca streams live New World Symphony rehearsal & performance

Seneca College recently connected to the New World Symphony (NWS) in Miami over ORION and Internet2, the R&E backbone in the United States, to broadcast a performance for a world-renowned composer's feedback. Michael Colgrass, who lives in Toronto, was able to give an immediate and accurate critique on the NWS orchestra's rehearsal and live performance of his music.

The performances were broadcast by videoconference over advanced networks, utilizing unicast DVTS and a speed of 30 Mbps in each direction. Seneca received multi-camera shots of the orchestra on stage as well as multi-microphone audio so that Mr. Colgrass could offer, in real-time, detailed critiquing of the orchestra's rendition of his piece, *Déjà Vu*.

For more information, visit <http://www.nws.edu/event> and <http://www.michaelcolgrass.com>.



Broadband visual tools to connect 600 students across Canada

A record number of 600 high school students from across the country are expected to take part in the upcoming Youth Town Hall Session, the largest VirtualClassroom session to date, to virtually discuss the topic of "Diet & Body Image" on April 19, 2007. Six high schools in Edmonton, Toronto, Ottawa, St. John's and Fredericton will communicate by videoconference over CANet 4 and regional networks including ORION through newly-developed, research prototype visual communication tools. Five different technology and health organizations will provide the latest scientific health research on diet and body image.

"To our knowledge, this is the first time that a broadband cross-Canada youth town hall session has taken place," said the Communications Research Centre Canada's (CRC) John Spence, who co-manages the CRC/NRC VirtualClassroom with Dr. Martin Brooks at the National Research Council Canada (NRC).

The program uses high-speed (10 MB to 1 GB) fibre optic and bidirectional satellite connections (500 kb to 1 MB) as well as broadband visual communication tools to create rich media-interactive learning environments.

In addition to the synchronous, real-time discussion during the videoconference, each school will have access to tools for user generated online video as asynchronous visual communication. For example, each small group of students will generate a one-minute video using VCam, a visual communication answering machine, to describe the group's position on a health issue. It is then mounted on the VCam server where it is immediately accessible to the other participating students to comment on.

To learn more, visit http://www.crc.ca/en/html/crc/home/mediazone/eye_on_tech/2007/issue5/classroom.



Canadian students will meet in cyberspace to discuss body image issues.

ORION News Briefs

ORION completes network upgrade with Juniper Networks and JDSU gear

ORION completed a significant core network upgrade, expanding from 4,300 km to 5,800 km, on March 15, which included fibre diversity and new optical and routing equipment. Ontario's R&E network installed next-generation optical gear from JDSU and new routers from Juniper Networks. The expansion involved new routes from North Bay to Peterborough and St. Catharines to London, with JDSU's WaveReady DWDM (Dense Wave Division Multiplexing) optical gear. Juniper Networks' new M120 routing equipment was installed at ORION Points of Presence (PoPs) in Peterborough, North Bay, Toronto and London. The M120 gear supports next-generation Internet Protocol applications, including IPv6, MPLS (Multi Protocol Label Switching) and QoS (Quality of Service). The expansion allows break-outs along the new routes to previously unconnected communities: Orillia and Huntsville along the North Bay to Peterborough route, and Vanessa, St. Thomas and Middleport along the St. Catharines to London route. The network upgrade, made possible with financial support from CANARIE, is very important to ORION's users since the new links add critical back-up and resiliency to the network. For more information, please read the official releases: <http://www.orion.on.ca/news/pdf/ORION>SelectsJuniperRoutingEquipment.pdf> and <http://www.orion.on.ca/news/pdf/ORIONselectsJDSUequipment.pdf>.

Brian Desbiens moves on

Brian Desbiens has completed his final term as a member of the Optical Regional Advanced Network of Ontario (ORANO) Board of Directors. Desbiens was among the original members of the Board when it was created in 2001 to establish the ORION network across Ontario. The former President of Fleming College attended his last meeting in Waterloo on March 29. Led by Board Chair Dr. Stan Shapson, Vice President Research and Innovation, York University, the board expressed thanks and formally recognized Desbiens' significant contribution to the organization over the years. ORION President/CEO Phil Baker noted further that Desbiens helped lead the organization from its very beginnings to a solid footing as a self-sustaining organization providing critical infrastructure for Ontario's research and education community. Terry Mosey, past Executive Vice President of Bell Canada, takes over his duties as Board Secretary/Treasurer. The full list of ORANO board members is available on the ORION web site at www.orion.on.ca/about/.

York first Canadian university to join World Community Grid

York University has become the first Canadian university to partner with World Community Grid – joining a group of more than 220 companies, associations, foundations, nonprofits and academic institutions. York University is encouraging its students, alumni, faculty and staff to contribute their idle PC time to assist humanitarian research by joining World Community Grid and by becoming a member of the York University Research team. The grid technology provides researchers with a readily available pool of computational

power that can be used to help find cures for cancer, AIDS and muscular dystrophy, for example. Grid technology works by joining together many individual computers, creating a large system with massive computational power that far exceeds the power of a few supercomputers. In only a few short weeks, the York University Research team on World Community Grid has attracted nearly 150 users, placing it near the top 100 of more than 14,000 teams worldwide on the Grid. The York team has accounted for more than 2,000 results returned to the grid to date, which has translated into almost two full years of accumulated research on various projects. For more information, visit www.worldcommunitygrid.org.

CFI grant awarded to digital libraries supporting social sciences and humanities research

Researchers and students in the social sciences and humanities in Canada will benefit from a \$25 million investment by the Canada Foundation for Innovation (CFI) to support the development of new digital research systems. A \$19.1 million investment was awarded to the Canadian Research Knowledge Network (CRKN), a consortium of Canadian universities that provides its members with desktop access to a wide range of research content through licensing and purchase agreements with Canadian and international publishers. The University of Ottawa will be the host institution for this new national infrastructure. A \$5.8 million grant was awarded to the Synergies project, a national consortium of 21 universities developing a new, decentralized digital system for disseminating research results and enhancing researcher access. Hosted by the Université de Montréal (and with the University of Toronto as the lead institution in Ontario), the project promotes Canadian research through the digitization and creation of digital journals in the humanities and social sciences. To learn more, visit <http://www.innovation.ca/media/>.

UOIT partners with SHARCNET and Trent to deliver new MSc program in Materials Science

The University of Ontario Institute of Technology (UOIT), one of 16 institutions in the Shared Hierarchical Academic Research Computing Network (SHARCNET), is spearheading its deployment for research collaboration opportunities. Through the collaborative facilities of AccessGrid (AG), a group-to-group interaction add-on to SHARCNET, UOIT will participate in the Research Seminar Series being accessed by participating SHARCNET sites across Ontario. Furthermore, UOIT plans to use AG to deliver most of the courses in the new UOIT-Trent University Master of Science in Materials Science program. UOIT will also use AG to deliver a jointly offered course in high-performance computing across several SHARCNET institutions later this year as part of its Master of Science in Modelling and Computational Science program. For details, visit <http://www.uoit.ca/>.

ACAATO becomes Colleges Ontario; announces new President/CEO

The Association of Colleges of Applied Arts and Technology of Ontario (ACAATO), has changed its name to Colleges Ontario. The change was implemented to help strengthen the organization's work to make college training of the workforce a

top-of-mind issue for politicians and opinion leaders. Colleges Ontario has also appointed a new President/CEO, Linda Franklin, a veteran advocacy and communications specialist. Most recently serving as president of the Wine Council of Ontario for 13 years, Franklin is well apprised of the role of colleges, having worked with Niagara College to establish a teaching winery and related programs. For more information, visit www.collegesontario.org.

Distance E-Learning technology brings courses to remote area students

The Ontario government has partnered with Contact North/Contact Nord to create more opportunities for students in Wallaceburg, Ontario to access college and university courses by establishing a new distance education access centre. All local students, including francophones and those living in First Nations communities, will have equal access to the best learning opportunities in the province, without having to travel a long way to a postsecondary institution. With an investment of almost \$1.2 million by 2007-08 from the Ontario government, Contact North/Contact Nord, northern Ontario's distance education and training network, will help implement the network. For more than 20 years, the organization has been using advanced technology to bring high school, college and university programs and courses in English and French to students living in small and remote northern communities. To learn more, visit <http://ogov.newswire.ca/ontario/>.

OCAD receives \$367,000 from Canadian Heritage for mobile technologies project

The Ontario College of Art & Design (OCAD) recently announced major Government of Canada support for Portage, a mobile media lab initiative led by OCAD Professors Paula Gardner and Geoffrey Shea. Provided by the Department of Canadian Heritage through its New Media R&D Initiative, part of the Canadian Culture Online (CCO) Strategy, the \$367,000 contribution will be used for further research already underway in the mobile media lab. OCAD's mobile media lab investigates the use of wireless technologies to enhance the delivery of cultural and entertainment content. Portage will create a virtual theatre, a vibrant entertainment park, on a downtown Toronto street, installing a number of experiences in the John Street corridor that are triggered or controlled by cell phone users. Players can change content, upload information and experience the environment they're in by interacting with content that changes as they move through the street. A new design engine called MEE can be used to port content to the cell phone. A goal of Portage is to investigate how broadly mobile technology, and content created for it, can be deployed. For more information, visit http://www.ocad.ca/about/news_events/.

People News

After 14 years, Dr. Mark Poznansky steps down as President & Scientific Director of Robarts Research Institute at the end of the month (April 30). Robarts board member Dr. Cecil Rorabeck will become interim Scientific Director. Effective June 30, Dr. John Challis, VP Research and Associate Provost at the University of Toronto, steps down after four years.