

# orion

research and education news

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## Successful testing of HD IP broadcast over ORION

*Showcased to broadcast industry in Las Vegas*

Ryerson University has successfully completed testing of high definition IP video technology over ORION that broadcasters, such as TVO and TFO, could use to stream high definition live interview video content from remote sites to production studios over IP networks, instead of satellites.

Ryerson's Richard Grunberg, Director of Photography, Head of Video, and Assistant Professor in the School of Radio and Television Arts, initiated and is spearheading the research, looking at the feasibility of using high-end HD video streaming technology to support transmittal of broadcast quality content on IP networks.



Ryerson professor Richard Grunberg. (Photo courtesy of Dario Ruberto / Ryerson University).

Grunberg's research team recently completed testing in a demonstration project, which involved Ryerson, Laurentian University in Sudbury and TFO (La Chaine francaise) in Toronto, using new low-latency HD IP video technology developed by HAIVISION, of Montreal.

"Broadcasters have long been looking for alternatives to microwave and satellite technologies due to high costs of satellite time and hardware and complex setup. Thanks to advances in higher speed networks such as ORION, we will have these lower costs options," he said.

### ORION Research and Education News

The ORION Research and Education 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.

### About ORION

ORION is an advanced high-speed fibre optic network that connects research and education institutions to each other and to colleagues around the world. Spanning 5,800 km to 21 cities throughout the Province of Ontario, ORION brings leading-edge network capability to Ontario's publicly funded R&E community, and is a catalyst for creative and innovative next generation Internet applications.

### For More Information

ORION is owned and operated by the Optical Regional Advanced Network of Ontario (ORANO). For more information, visit our web site at [www.orion.on.ca](http://www.orion.on.ca). Communicate with the Editor of the ORION Newsletter at [info@orion.on.ca](mailto:info@orion.on.ca)

"Our testing went exceptionally well and I believe we proved the technology a viable option to satellite - particularly for standard head and shoulder interviews," said Grunberg.

Most impressive, said Grunberg is the natural conversation possible between all three parties that the low latency HAIVISION technology allowed. The project also adapted the technology to give - in one unit per location, the ability to have four channels of audio, full intercom, IFB (internal foldback - the hidden earpieces interviewers and interviewees wear) and return HD video to locations.

The test involved HAIVISION's MAKO-HD video encoding technology, which the company agreed to provide for the tests and experimentation. What makes the technology unique, says Grunberg, is its ability to transmit and encode HD video and audio at extremely low (as low as 70 millisecond) latency, which would be ideal for a production-quality workflow, especially on a network like ORION.

Grunberg recently demonstrated this concept in Ryerson's booth at the NAB (National Association of Broadcasters) Convention in Las Vegas, where it was very well received by other educational establishments and broadcasters interested in participating in further testing and use.

TFO was ideally suited for the testing, says Grunberg. It regularly schedules broadcast interviews from Ontario colleges and universities quite a distance away from its studio operation, such as Laurentian in Sudbury. Similarly, TVO regularly uses the Munk Centre at the University of Toronto, and Loyalist College, in Peterborough, both also interconnected to ORION.

This content is usually transmitted to TVO and TFO studios via satellite for processing, live integration into their live programming, and editing. However, advances in IP video technology allows broadcasters like TFO and others to explore the use of IP-based video broadcast solutions, and consider integrating low-latency HD video streaming technology to transmit live or other content from multiple locations.

"We encourage the use of ORION as a test-bed for new and emerging technologies," says Director of Communication Andre Quenneville. "This is an ideal demonstration of ORION and its capabilities, and we're pleased to be part of this research."

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