

## Opportunities About To Study 3D Media in Ryerson's Rogers Communications Centre

**From: Office of Program Director, Operations and Technology,  
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**August 1, 2010** – For those who have experienced the summer of 2010, the re-emergence of 3D movies and the launch of 3DTV is a phenomenon that one could not have missed. For Faculty and Students who want to work in 3D media, Ryerson's Rogers Communications Centre (RCC) is home to a number of technologies to explore the new digital 3D medium that goes well beyond that found in the Cinema.

Over the 2010-2011 Academic year look for 3D media to be produced via the RCC's Digital Cinema and Advanced Visualization Laboratory, experimented with in the Internet and Emerging Technology Impact Lab and shot by students who gain access to 3D camera technology from outside the University and make use of the Advanced Digital Cinema Editing Suite located in the RCC. With this diverse structure in place Ryerson's approach to the use of 3D crosses many mediums and is reflective of today's converged media landscape.

### 3D Experimental Technology Found In The Emerging Technology Impact Lab

The Emerging Technology Impact Lab (ETIL) will be ground zero for experimentation in the medium. The ETIL is a lab focused on the study of new media technologies and will provide an environment for experimentation with a number of simple and inexpensive 3D technologies. They include collecting 3D using digital photography, 3D Augmented Reality and live web streaming in 3D.



For both photography and video in 3D, the lab obtained a 10 megapixel FinePix REAL 3D W1 camera. The camera shoots both still images and 3D movie files that can be displayed without glasses on either an Autostereoscopic viewer or projected using 3D glasses on the portable AV3Rover projection system.

The autostereoscopic LCD display lets one view 3D images and movies created on the camera without the aid of 3D glasses on its 8" LCD. The 3DAVROVER is a portable 3D projection theatre that offers portability and quick setup. The unit contains a 3D computer with configured 3D video graphics card, 3D object viewer software, 3D stereoscopic video player and image viewer, 2D to 3D real time conversion software for Video, DVD, and still images as well as 34 sets of active DLP-Link eyewear with a locking storage compartment and eyewear sanitization.



For stereoscopic web streaming the ETIL has a Minoru 3D Webcam. The webcam is a single unit with two cameras spaced about the same distance apart as human eyes to provide the stereoscopic effect. This anthropomorphic camera is ideal as users tend to look into the eyes of the camera as they light up. The Webcam has a multi-position stand that can sit or stand on a desk, or perch on a monitor. The unit comes with 5 pairs of special colored glasses to see the 3D image. The Minoru can be used with Windows Live Messenger, Skype, AOL instant messenger, OoVoo and other video conferencing packages.

For 3D immersive environments the lab has added some eyewear. The VR920 is specifically designed to allow for immersion inside virtual worlds, MMOs and 3D games. This sunglass-style eyewear, provides a virtual 67-inch screen as seen from 10 feet that displays both 2D and 3D video. To add an augmented reality component a camera is added to the front where a live camera feed can be augmented with additional information on the display.



Also available is the Wrap 920AR which is the world's first consumer 3D video eyewear with 67-inch displays as seen from 10-foot (3m) and a stereo camera pair that "looks" into the world, bringing mixed and augmented reality to life. The stereo camera pair, each capturing 752 x 480 images at 60 fps, delivers a single 1504 x 480 side-by-side image that can be

viewed in 3D stereoscopic video on the Wrap eyewear displays.

For 3D modeling work students creating 3D graphics will have access to Nextengine's Desktop 3D Scanner. The unit contains an eye-safe high-definition laser array and sensors with a high point density. The Scanner HD captures a wide colour gamut when scanning objects an important requirement in order to capture surfaces.



### **Research In The Digital Cinema and Advanced Visualization Laboratory**



The Digital Cinema and Advanced Visualization Laboratory is a research lab that contains 3D Non Linear Editing Facilities and Eye tracking technology that allows for the study of how individuals perceive 3D Digital Cinema. Work is currently underway within the lab to undertake the study of 3D perception with 3D test material shot earlier this year. Work underway in 3D titled "Comparing Audience Response to 4K in 3D / 4K / HD" is underway involving several Ryerson researchers including Richard Grunberg, Charles Davis, Abby Goodrum, and Paul Hearty.

### **Advanced Digital Cinema Non Linear Editing Suite**

For students that wish to create 3D materials suitable for Broadcast 3DTV or for the Cinema, the Advanced Digital Cinema Non Linear Editing Suite has been designed for editing media from HDTV 3D through 4K Digital Cinema media. Technologies in the suite include the most advanced Apple Mac Pro installation at Ryerson running Apple's Final Cut Studio and CineForm's Neo3D professional 3D editing software for both film and broadcast media. To view 3D media the suite contains JVC's 46" GD-463D10 3D color monitor which was the model used by James Cameron in the creation of AVATAR.



More information on the Rogers Communications Centre and the media technologies associated with it can be found at <http://www.rcc.ryerson.ca/technology/index.htm>