

# Monash e-Research Centre



**Seminar: Thursday, 10 March 2011**

## **Eliminating the Bottlenecks in Visualisation of Large Data and Research Collaboration**

**Presented by Dr Tom DeFanti**

**Research Scientist, Calit2, University of California, San Diego (UCSD)  
Distinguished Professor Emeritus, Computer Science (UIC)**

**\*Includes a brief introduction to the 'MASSIVE' facility by Dr Wojtek Goscinski.**

**Time: 11.30am-12.45pm**

**Location: Room 135, Bldg 26, Clayton Campus, Monash University**

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**For more information visit: [www.monash.edu/eresearch](http://www.monash.edu/eresearch)**

### **Abstract:**

The OptIPortal is a tiled display that is the visual interface to the OptIPuter, a global-scale computing system tied together by tens of gigabits of networking. The main point of the OptIPuter project is to investigate a "future" in which networking is not a bottleneck to local, regional, national and international computing and collaboration. Such a project needs sufficiently advanced displays and software to also eliminate the bottlenecks of screen size and pixel count. OptIPortals are designed to allow collaborative sharing of extremely high-resolution graphic output, as well as video streams, including multi-way video conferencing. The newest OptIPortals typically consist of an array of 4-to-100 digital signage HDTV panels, nearly borderless displays becoming more and more ubiquitous. Discussed in detail are the decisions made to design a tiled display and software that can be replicated and easily used by academic researchers in various disciplines. Some recent and planned installations and usage cases will be shown, including the newly developed OptIPortables, rapidly deployable display systems in wheeled road cases that can be rolled out to a site and installed in less than an hour. Also shown will be the future of the CAVE immersive 3D environments as 3D displays have emerged as consumer technology.

**Biography: [http://www.calit2.net/people/staff\\_detail.php?id=67](http://www.calit2.net/people/staff_detail.php?id=67)**

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Thomas A. DeFanti, PhD, is a research scientist at the California Institute for Telecommunications and Information Technology (Calit2) at the University of California, San Diego. He is principal investigator of the US NSF International Research Network Connections Program TransLight/StarLight project, and he is principal investigator of the US NSF GreenLight Instrument project and the KAUST Calit2 OptIPresence Project.

DeFanti is an internationally recognised expert in computer graphics since the early 1970s. DeFanti has amassed a number of credits, including: use of his lab's hardware and software for the computer animation produced for the 1977 "Star Wars" movie; recipient of the 1988 ACM Outstanding Contribution Award; and appointed an ACM Fellow in 1994. He also shares recognition along with EVL director Daniel J. Sandin for conceiving the CAVE virtual reality theatre in 1991.