

Lawrence Livermore National Laboratory's

Science on Saturday

Hosted by Cal State East Bay

Saturday, April 25, 2009

10:00 — 11:00 AM

at the Valley Business & Technology Center, Cal State East Bay, Hayward Campus

Title of Lecture: **Communicating at the Speed of Light**

Presented by: **Chris Ebberts, Ph.D.**

The optical revolution in communication is taking place, right now, within your home. 200 years ago it took weeks to transmit information in letters carried by foot, horse, or boat. Today the new transit of information takes place at the speed of light using lasers propagating down shards of glass. We can check our balances, pay our bills, email loved ones, and download movie trailers by simply clicking on a mouse. Our dependence upon fiber optics for communication is illustrated by recent news events: when an undersea fiber optic cable is accidentally broken, international communication is affected. The tremendous increase in the speed of information transfer takes place due to the merging of two sciences: optical physics and materials science - understanding the nature of how light works and the discovery and perfection of glass. We will explore the developments in these two branches of science that have merged at this historic moment.

Science on Saturday is a series of science lectures for middle and high school students. Each topic highlights cutting-edge science occurring at the Lawrence Livermore National Laboratory (LLNL).

Admission and parking are free of charge. Seating is on a first come basis. Seats may not be reserved in advance. Students receive a "Student Notes" worksheet to record key information from the talk. The worksheet will be marked with the official SOS stamp at the end of the presentation.

Many teachers use the worksheet to award "extra credit." Students should check with their teacher in advance to determine if they will receive credit for attending SOS.



After the Lecture...Please Join Us...Science Festival 2009

Watch, Participate, and Learn...over 60 different scientific exhibits, demonstrations and hands-on activities. **The Science Festival is free and open to the public.** • Hours: 11:00 AM - 4:00 PM • Location: Cal State East Bay, Hayward Campus, North and South Science Buildings, and Valley Business and Technology Center.

For Information, call 510-885-3441 or www.sci.csueastbay.edu/festival

**Information and directions (510) 885-3441 or www.sci.csueastbay.edu/festival
All parking will be free on the day of events, Saturday, April 25th.**



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