

NKS faggruppe for organisk kjemi (FOK) inviterer til

## Industry Lecture 2008

**Tid:** Torsdag 16. oktober 2008 klokken 11:15.

**Sted:** Auditorium 1, Kjemisk institutt, Universitetet i Oslo.

**Foredragsholder:**

**Dr. Scott Brown**

Vice President,  
Research & Development and Commercial  
Cambridge Display Technology (CDT)  
Cambridge  
England



**Tittel på foredrag:**

“Light from Organic Polymers – the Evolution of CDT’s Polymer OLED Technology”

Display-teknologien i store og små flatskjermer endrer seg raskt. Avansert kjemi står sentralt i denne utviklingen. CDT, et spin-off-selskap fra miljøet ved Cambridge University i England, har stått sentralt i utviklingen av den høyaktuelle OLED-teknologien. Dr. Scott Brown vil diskutere historien bak CDT’s suksess med disse spennende organiske materialene.

**Abstract:**

Polymer-based organic light emitting diode (P-OLEDs) devices are attracting significant interest as a next generation display technology due to their excellent performance characteristics, which include good viewing angle, high contrast ratio, fast switching speeds, and low power consumption. Light emitting polymers are solution processable and may be deposited using low cost manufacturing approaches such as spin-coating or printing. P-OLED technology may be used in a range of applications beyond displays, including lighting, signage, and organic print heads.

This presentation will provide a review of P-OLED technology, its features and benefits, and will introduce the main components of device design and operation. Key developments leading to progress made in the areas of material lifetime, efficiency and voltage stability will be highlighted, together with a summary of improvements made in ink jet printing processes for the manufacture of devices. Example products and relevant markets will be discussed alongside CDT’s approach to licensing and working with supply chain partners to accelerate adoption of the technology.

**About CDT:**

Cambridge Display Technology (CDT), headquartered at Cambourne near Cambridge in the UK, was spun out of Cambridge University in 1992 and acquired by Sumitomo Chemical, Japan in September 2007. Together CDT and Sumitomo lead the research and commercialisation of light emitting polymer technology used in displays and lighting applications. Devices incorporating this technology are often referred to as P-OLED, or polymer organic light emitting diode, devices. CDT holds an extensive patent and know-how portfolio relating to P-OLED materials and devices and actively licenses this portfolio to display and lighting companies around the world. More information on CDT can be found at: <http://www.cdttld.co.uk>

**About P-OLEDs:**

P-OLEDs are ultrathin light emitting devices that can be used in a wide range of display and solid state lighting applications. Light emitting polymers can be deposited from solution using a variety of printing or coating techniques, and when activated electrically, emit light at a wavelength dictated by the structure of the polymer used. Being an emissive technology, complicated backlight assemblies and colour filters are avoided, making P-OLED an attractive and cost-effective alternative to LCDs in flat panel display applications. P-OLED based displays exhibit excellent contrast ratios, often as high as 1,000,000:1, and viewing angles approaching 180 degrees. P-OLED devices have ultrafast switching times making them suitable for full motion video applications. Recent improvements in material efficiencies and lifetimes mean that numerous applications are now possible.

**About the lecturer, Dr. Scott Brown:**

Scott joined CDT in 2002 as Vice President of Research and Technology and in this role has been responsible for recommending and leading company-wide initiatives that ensure that CDT retains market leadership, not only as a unique IP and technology provider, but also as a first class developer of high specification Polymer Organic Light Emitting Devices (P-OLED), processes and related technologies. He has been responsible for material development and for CDT's 14" manufacturing pilot plant, which was established to develop and demonstrate P-OLED display fabrication processes, including ink jet printing. Scott was part of the management team that took CDT to IPO on the NASDAQ exchange and later positioned the company for acquisition by Sumitomo Chemical Company. Scott lived and worked in Tokyo to set up Sumation, the 50:50 joint venture between CDT and Sumitomo, responsible for the manufacture, sale and distribution of polymeric light emitting materials. More recently, he has taken on the management of CDT's commercial and Intellectual Property Functions.

Prior to arriving at CDT, Scott was an employee at Dow Corning Corporation where he held several key R&D and Manufacturing leadership roles both in Europe and in the USA, including the position of Global R&D Director for Dow Corning's Electronics Business which was based in Midland, Michigan, USA.

Scott has a BSc and PhD in Chemistry from the University of Exeter and an MBA from Oxford Brookes University.