SID

SOCIETY FOR INFORMATION DISPLAY

UK & IRELAND CHAPTER

NEWSLETTER

Number 48   June 2013

Chairman's Report

Myrddin Jones

Welcome to the latest SID UK & Ireland chapter newsletter.

Our most important event this year is *Eurodisplay 2013*. This biennial European conference is being jointly organised by us and the Institute of Physics' Optical Group and will be held at Imperial College, London from 16th to 19th September. Registration is now open and 'Earlybird' rates are available until 31st July, so don't delay!

The conference is aimed at engineers, researchers, students, users, developers and manufacturers of displays. The programme consists of a Monday workshop on Organic Electronics, followed by a three-day symposium, which starts with plenary sessions with keynote speakers and continues with two parallel sessions of oral presentations. There will also be poster presentations. The three plenary apeakers are:

- Dr Jeremy Burroughes, CTO, Cambridge Display Technology
- Dr Michael Heckmeier, Senior VP Liquid Crystal Research & Development, Merck Chemicals
- Professor Henning Sirringhaus, Head of Microelectronics & Optoelectronics, Cavendish Laboratory

Full details, including registration and programme details, can be found on:

http://eurodisplay2013.iopconfs.org

On 20th March this year, we held a technical meeting on 'Touch Technology' at Sharp Laboratories of Europe, Oxford. This was a

Myrddin Jones

very successful meeting – as always, Sharp Laboratories are very good hosts and I'd like to thank them for their hospitality. The presentation sessions covered a broad range of touch technologies, ranging from emerging quantum tunnelling to reviews of the market size and potential for touch technology. One of the sessions was dedicated to the Chapter AGM and I'd like to thank members for their comments and advice at the meeting.

Copies of the presentations from the meeting are available to members on the chapter website. A short report of the meeting is on Page 3 of this newsletter.

Thanks to successful technical meetings over the past few years, the committee has decided to donate £1,200 to support "colour vision and displays" tools and teaching in four schools. The scheme, organised by the Optoelectronics College (OEC) is a project to support the classroom teaching of optoelectronics in secondary school science to pupils in the 11-13 age range.

The colour vision and displays set of activities and experiments are designed to introduce pupils to colour vision, additive mixing of primary colours, how this is used in optoelectronic displays, such as LCDs and how an LCD actually works.

IOP Institute of Physics

EuroDisplay 2013

(33rd International Display Research Conference)

16–19 September 2013, Imperial College London, London, UK

Abstract submission deadline: 1 March 2013   http://eurodisplay2013.iopconfs.org

SID SOCIETY FOR INFORMATION DISPLAY

Organised jointly by the IOP Optical Group and the UK & Ireland Chapter of the Society for Information Display

Join us in London for the leading biennial displays conference displays conference

EuroDisplay 2013 is being jointly organised by the UK & Ireland Chapter of SID and the Optics Group of the Institute of Physics.

The conference starts with a Monday workshop on organic electronics. This is followed by a three-day symposium, which starts with plenary sessions and continues with two parallel sessions. There will also be an exhibition

Confirmed Plenary Speakers are:

Dr. Jeremy Burroughes (Cambridge Display Technology, UK)

Dr. Michael Heckmeier (Merck Chemicals, Germany)

Prof. Henning Sirringhaus (Cavendish Laboratory, UK)

Full details of the conference can be found on the Euroisplay wb site at:

http://eurodisplay2013.iopconfs.org

The information includes details of Registration and the Programme. Register before 31st July 2013 and take advantage of 'earlybird' rates.

The registration deadline is 6th September 2013

Exhibition at the London EuroDisplay 2013

EuroDisplay 2013 will also include a small Table Top exhibition which will run in parallel with the conference. The price to exhibit will be £300 plus VAT per table, which is good value for a company to present itself to a select audience of the display community. There is a total of 16 Table Tops planned for the exhibition. At the last count, 10 had already been reserved.

There is also a number of sponsorship opportunities and therefore if you would like more information on this or the exhibition please email Neville Milward on **nmilward@ginsbury.co.uk** for further information.

Chairman's Report Continued

The current pilot for the OEC has brought together science teachers, teacher educators and university researchers to develop innovative teaching materials, apparatus and teacher continuing professional development.

Details on the activities of the OEC can be found on www.opto.org.uk

I'd like to thank members for nominations for the Ben Sturgeon award for 2013. The Ben Sturgeon Award is made annually by the Society, to individuals or groups who have made a significant contribution to the development of displays.

Since the inauguration of the award, many recipients have made advances in liquid crystal displays.

Ben Sturgeon worked in this area, but in recent years the award has been made to a far wider scope of technologies. The criterion remains to make the award to those young scientists and engineers who have made a significant contribution to the field of displays. Since this is an award made by the UK & Ireland Chapter of the SID, it is expected that a significant fraction (but not necessarily all) of the work will have taken place in the UK or Ireland.

We will announce the winner of the 2013 award at EuroDisplay in September.

With many thanks to my fellow committee members, all volunteers, for their hard work and support over the past year.
With many thanks,

Myrddin

TOUCH TECHNOLOGY

Report on the one-day meeting at Sharp Laboratories of Europe, Oxford
Wednesday 20th March 2013
Contributions by John Mansell and Matti Juvonen

The morning started with a welcome from Myrddin Jones of the Technology Strategy Board, representing SID, followed by an introduction by Ian Thompson and Paul Gass of Sharp Laboratories, who presented a brief introduction to Sharp Laboratories of Europe and particularly to its display research activities over the past two decades.

The technical programme for the day, started with a talk on **The market for touch screens and ITO replacement by** Harry Zervos of IDTechEx. Dr Zervos discussed the range of transparent conductors, highlighting desirable properties and explaining some of the reasons which led to indium tin oxide (ITO) becoming the material of choice for display applications. He then listed various emerging conductors including grids, nanowires and graphene. Dr Zervos gave an overview of various touchscreen technologies suitable for small, medium and large display applications, and highlighted the huge popularity of projected capacitive touchscreens in small screen sizes.

Harry Zervos

Rob Bennett of 3M Europe gave a talk on **Touch-panel and front surfaces optical performance**. He pointed out that reflections can be minimised by matching refractive indices and scattering or suppressing reflections (using anti-glare and anti-reflection surfaces respectively), but they are not the only consideration. The desired optical characteristics of the display depend on the application and the choice between contrast and readability, durability and privacy is necessarily a compromise. The talk highlighted the need to design the display as a whole as adding an extra layer to an existing display rarely produces a good result. Instead, the optical performance of a display is a complex matter that must be taken into account in every step of the display design process.

The third paper on **the role touch drivers play in modern touch interfaces** was presented by Dave Bhattacharjee of Touch-Base, who have been producing custom touch screen drivers for a variety of operating systems since the 80s. Many people think that the ubiquity of touch and its support in operating systems, will eliminate the need for touch drivers. In his talk, Bhattacharjee argued that a carefully designed or even customised driver can enable a richer touch experience and overcome operating-system limitations as well as prolong the life of legacy touch hardware.

There then followed the chapter AGM, which is reported elsewhere in this newsletter and lunch. The first paper of the afternoon session was given by Javid Khan of Holoxica, on an **Interative holographic display**. He started by giving an introduction to volumetric displays, digital printed holograms and holographic displays and described what makes them a superior solution among 3D displays. Holographic display design presents a number of unique challenges in terms of computation and bandwidth, and careful optimisation is required to overcome these challenges. Holoxica brought along some very nice demonstrations, including their second-generation interactive display demonstrator.

Javid Khan

Miguel Nacenta of the University of St Andrews HCI laboratory (SACHI) gave a talk on **Multi-touch, multi-display and perceptual research at SACHI** in which he described the lab's broad portfolio of research into of human-computer interaction including multi-touch, multi-display, gesture input and perceptual research. SACHI has worked on a number of interesting user interaction technologies for visualising information and haptic feedback. Particularly interesting was the lab's research into perceptual and cognitive aspects of user interfaces including data representation in multi-display environments, the learning curve of gesture interface and context-appropriate data representation.

Miguel Nacenta

Bruno Giversen of Mindstorm gave an interesting talk on the use of **Multi-user public touch systems** in leisure venues including high-end restaurants and nightclubs.

A large, integrated touchscreen provides a uniquely social user experience, inviting groups of people to explore the range of games and other entertainment applications available.

CHAPTER AGM

The chapter AGM was held during the one-day meeting on Touch Technology held at Sharp Laboratories of Europe, Oxford.

Follwing the approval of the minutes of the previous meeting, the reports from the Chairman, Treasurer and Membership Secretary were presented.

Continued in next column

Custom form factors such as round and oval tables enhance the social experience by giving more users physical access to the interface. Giversen emphasised the importance of designing applications from ground up to take advantage of the user interface and of continually creating new content to keep customers engaged.

The last speaker of the day, David Lussey of Peratech spoke on **Quantum tunnelling composite technology for touch**. He described this material, Quantum Tunnelling Composite (QTC) as a combination of polymer and conductor with a usefully large, pressure-dependent variable resistance range that can be used for switching and sensing. The material can be made in various form

David Lussev

factors, printed, r made into fabric, or patterned into XY pressure sensors. Its properties allow it to be used for various applications including wearable, washable keypads and display touch overlays.

Chapter AGM Continued

The revised chapter bylaws were presented and approved.

The following chapter officers were elected to servew for the coming year:

Dr Sally Day   UK Director

Mr Myrddin Jones   Chairman

Dr Alasdair Campbell Vice-Chair

Mr Graham Weaver   Secretary

Mr Paul Lacey   Treasurer

Mr Paul Lacey   Membership Secretary

Dr John Mansell   MeetingsRegistrar & Newsletter Editor

CONFERENCE CALENDAR

IMID 2013

The 13th International Meeting on Information Display

August 26th – 29th 2013

EXCO, Daegu, Republic of Korea

http://www.imid.or.kr/

IDW 2013

20th International Display Workshops

December 4th – 6th 2013

Sapporo Convention Center, Sapporo, Japan

http://www.idw.ne.jp/

EuroDisplay 2013

(33rd International Display Research Confernce)

Organised jointly by the IOP optical Group and the UK & Ireland Chapter of SID

16-19 September 2013

Imperial College, London

http://eurodisplay2013.iopconfs.org/home

DISPLAY WEEK 2014

June 1st-6th, 2014
San Diego Convention Center, San Diago, California

http://www.displayweek.org/2013/2014.aspx