



SOCIETY FOR INFORMATION DISPLAY

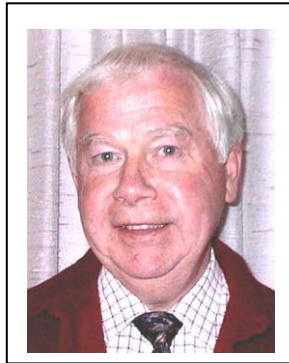
UK & IRELAND CHAPTER

# Number 32 NEWSLETTER November 2000

## Chairman's Report

John Raines

Taking over the Chairman's role comes as a bit of light relief to me, having spent the last three years organizing the EID conference programme. My thanks go to all who have assisted over this period, especially the speakers. The quality of their presentations has helped to grow the conference to a level of excellence whereby it has become a SID regional event. The aim is to build the event even more in the future and Chris Williams is actively involved in doing just that this year. This means he is now chief arm twister and has been very effective, having persuaded a wide range of speakers to present some very novel papers.



This major annual event for the Chapter has this year been re-titled SID@EID. We have moved it from Sandown to a brand spanking new prestigious site, ExCel, in London's ever developing docklands area. Please come along and help us make this the most successful conference and exhibition to date. If you haven't visited this area of London recently come by Docklands Light Railway and you will enjoy spectacular views of a totally new panorama of this part of London.

An incoming chair is usually expected to have some sort of game plan, so what's mine? One of my main objectives is to give our chapter members as much value as possible for their membership fee, which I am sure you will have noticed has risen in the past year.

You should be aware of one important point about the increased fee. The UK chapter receives none of the additional money. It all goes to SID HQ to help in meeting the ever-increasing demands made on the organisation. I am sure you will have noticed that the old membership year has been abolished, so that for new members, each year runs from the month in which they joined. Membership details can now be easily checked on the SID website.

Regarding membership renewal, when the fateful day arrives, renew membership through the UK membership secretary, Pat Crofts, as this gives us a certain financial advantage.

Continued on Page 5

### SID@EID

The UK's leading Displays conference

In conjunction with EID 2000

ExCel, 21 - 23 November 2000

FINAL PROGRAMME PAGE 2



### Contents

SID@EID, Final Conference Programme .....	2
Meeting Report - Transport Display Trends ...	4
Alfred Woodhead Best Paper Award.....	5
Sports Report .....	5
Subscriptions .....	5
Calendar.....	6
Contact Information.....	6

# Final Conference Programme for EID 2000

ExCel, London, 21 – 23 November 2000

Booking information – [www.sid.org.uk](http://www.sid.org.uk)

## Day 1

### Morning Session: Market review and making money from displays

10.00	Opening comments	Chris Williams	SID UK
10.05	Chairman's comments	John Raines	SID UK
10.15	The information age – are displays keeping up?	Aris Silzars	SID President
11.00	Economics of choice – what to consider when changing display technologies in major projects	Jack Pringle	Pringle-Brandon Ltd
11.30	Making money from displays	Bill Taylor	Printable Field Emitters
11.55	Making EVEN MORE money from displays	Tim Reynolds	Ceravision
12.20	Making dot.com money from displays	Mike Caddy Graham Grover	Trident Microsystems
12.45-2.00	LUNCH AND VISIT EXHIBITION		
1.00-1.45	SPECIAL EVENT (free of charge) Moving to e-commerce. Make the change or watch your business disappear	Jim Norton	Institute of Directors
<b>Afternoon Session: Marketing trends and the likely impact upon display requirements for the future</b>			
2.00	Chairman's Comments	TBA	SID
2.05	Portable and mobile communications	Jyrki Kimmel	Nokia
2.50	Late news paper	TBA	
3.20	Desktop-computer monitor products	Merddyn Jones	Hitachi Europe
3.50	Multi-media products	Jamie Carter Frank Jammers	NEC Europe/ NEC Electron Devices
4.20	Trends in input technologies for hand-held devices	Andrew Hsu David Ely	Synaptics UK
4.50	TEA AND VISIT EXHIBITION		

## Day 2

### Morning Session: Emissive displays

10.00	Chairman's comments	TBA	SID UK
10.05	A review of emission from solids	Jack Silver	Greenwich University
11.00	Flexible organic LED's	Mike Weaver	Universal Display Inc
11.30	Service life and stability of phosphor screens excited by low-energy electrons	Sergei Bukesov	Saratov State University, Russia
11.55	Mechanical origins of TV displays – a historical review and demonstration	C Grant Dixon	TBC
12.20	LUNCH AND VISIT EXHIBITION		

## Afternoon Session: 3D Displays

1.50	Chairman's comments – a short note on 3D activities in Russia	Maxim Tomilin	Vavilov State Optical Institute, St Petersburg
2.00	The rush to 3D displays – filling the missing dimension	Darrel Hopper	USAF Wright Patterson Airforce Base
2.45	A realisable implementation of low-cost 3D	David Trayner	Reality Vision
3.10	Displaying non-compact objects onto multi-layer screens with controllable opaqueness	Victor Belyaev	Genreal R&D Institute, Cometa
3.35	3D activities for large-size 'low-cost' displays	Adrian Travis	University of Cambridge
4.00	Autostereo 3D TV with head tracking	Phil Surman	De Montford University
4.25	TEA AND VISIT TO GREENWICH UNIVERSITY PHOSPHOR CENTRE OF EXCELLENCE		

### SPECIAL EVENT – EVENING TRAINING SESSION (extra cost)

4.45-7.45	Fundamentals of displays	Nottingham Trent University
-----------	--------------------------	-----------------------------

## Day 3

### Morning Session: Microdisplays

10.00	Chairman's comments	Darrel Hopper	USAF Wright Patterson Airforce Base
10.05	A review of current microdisplay technologies	Ian Underwood	University of Edinburgh
10.55	Next generation microdisplay systems	Bill Crossland	University of Cambridge
11.40	Wedge-shaped waveguides for flat-panel projection display using microdisplays	Adrian Travis	University of Cambridge
12.05	CUPID – an infrastructure to support microdisplay activities in the UK	Chris Gracie	Scottish Optoelectronics Association

### LUNCH AND VISIT EXHIBITION

### Afternoon Session: Human factors considerations for using displays and test and measurement

2.00	Chairman's Comments	TBC	SID
2.05	Describing the problems and proposing solutions for visually-impaired users of display systems	Gill Whitney	RNIB
2.50	Paper-quality displays using electrochromic technology	Diamuid O'Brien	Nanomat Ltd
3.15	Zenithal bi-stable LCD displays	Cliff Jones	ZBD Displays Ltd
3.40	The importance of testing and human factors assessment in emerging display technologies	Allan Gillespie	EPICentre, Abertay University
4.05	Characterisation of an LCD projection display	Lindsay MacDonald	Colour & Imaging Institute, Derby University
4.30	Pale-blue illumination for TV and computer displays as a means of visual-fatigue reduction	Grant Dermichogylan	The All Russian Research Institute for TV and Radio Broadcasting
4.55	Chairman's closing comments	TBC	SID
5.00	TEA AND CLOSE OF CONFERENCE		

# One-day meeting Transport Display Trends

Brooklands Museum, Weybridge – 20 September 2000

## Report by Graham Weaver

The meeting was held at the Brooklands Museum, Weybridge, Surrey, which allowed delegates to visit the museum and view the many old cars, motor bikes, cycles and aircraft, which are housed there.

Before the meeting, Chris Williams gave a brief presentation of the programme for the forthcoming SID@EID Conference to be held at the Electronic Information Displays 2000 exhibition at the ExCel Centre in London on 21 – 23 November.

The meeting started with a slide presentation, introduced by Mike Duval, which described the history of the museum, including the famous race track, the first powered flight made in Britain and the production of aircraft by Vickers and subsequently British Aerospace.

Keith Salway, from the systems integrators Jasmin plc, gave a paper on **the future use of displays for railway applications**, focusing on customer information systems. After outlining the many factors involved in the design of CIS's for railway stations, Keith reviewed the different display technologies which are being used – CRT, LCD, LED, plasma, TFT LCD, touch screen and rear projection, the latter using LCD, polysilicon LCD and DLP projectors. Trends include an increase in plasma, the use of intelligent monitors, housing designs for corporate image and the introduction of customer information kiosks with real-time access to the latest data and the display of non-CIS information. Any new system needs a staged approach to commissioning to ensure continued operation during the transition period.

The last paper of the morning, **Design of head-up displays for vehicles**, was presented by Paul Spedding from Pilkington PE. Following on from the considerable military avionics HUD expertise that the company has accumulated, Paul described the Truck HUD system, a night-vision system combined with a HUD unit mounted in a military truck and the more recent DVAN – Driver Vision at Night – system, developed in partnership with Visteon Automotive Systems. The DVAN system has been demonstrated on a Jaguar car, and with the combination of a near-infrared sensor and HUD, the driver sees a clearer real-time image of the road ahead.

The first paper of the afternoon, after an excellent lunch, was given by Tom Nicol from TVI Europe. In his paper, **displays for commercial vehicle information**, Tom described the displays being used in commercial vehicle tachographs. In Europe LCD

technology is used, rather than the VFD technology used in the USA. Tom reported that as the requirements get more complicated, the solutions would get more complex. It was predicted that TN displays will be superseded by DSTN/FSTN displays, with COG technology and that the use of graphic displays will provide more information. More colour will be used for ease of viewing.

Dr Marcus Penny from DERA gave a paper on the **use of electronic displays for increasing situational**



Ray Bridgwater

**awareness in critical military applications.** Marcus described the command and control consoles – both fixed and portable – which are used with unmanned vehicles for fire fighting and unexploded ordnance applications. The TFT displays, 12.1 in. SVGA for the portable console and 20.1 in. SXGA for the fixed console, are required to be bright sunlight viewable and to provide real-time video pictures with other sensor data windows.

Dr Richard Jales, from Raytheon Marine, gave a paper on **displays for leisure marine applications** (power and sailing boats up to 120 feet in length), which share many of the requirements of avionics systems, but require low cost and power consumption and need to be waterproof. As well as being daylight viewable, displays need a very wide viewing angle with the added complication of users wearing polarising sunglasses. Although CRTs are still popular for radar displays, LCDs have established a strong position. Analogue meters were first superseded by seven-segment displays, but with the need to show more and more data, dot-matrix displays have also been adopted. The latest state-of-the-art instruments from Raytheon use 7 in. and 10.4 in. daylight-viewable colour VGA TFT displays, using a combination of a medium-power backlight and passive contrast enhancement, which reduce the amount of reflected sunlight.

The final paper of the day, **Displays for Driving Simulators**, was given by Ray Bridgwater, from SEOS Displays. Ray outlined the current display types currently used in simulators – direct-view monitors, front-projected real image, rear-projected real image, rear-projected collimator and head-mounted displays. The availability of small, light and bright high-resolution LCD projectors has resulted in the development of a front-projected collimator system, which avoids the main drawbacks of the current systems with a cost of between US\$100K to 200K.

# Alfred Woodhead Best Paper Award

Congratulations to our authors who have won best paper awards at recent meetings. These awards go to the author who, in the opinion of the participants, gave the best paper. At the meeting on, 'Optical enhancement technologies for displays', held at the 3M Customer Centre in Bracknell, the award went to Adrian Travis of the University of Cambridge for his paper entitled, 'Flat-screen

projection through a wedge-shaped waveguide'.

The next meeting was the two-day joint meeting with DISNET, 'Liquid crystals and emerging technologies', which was held at DERA Malvern. The winner on the first day, 27 June, was again Adrian Travis for his paper on, '3D displays'. On the second day, the award went to Tony Bowdery for his paper, 'Technology Licensing'.

---

---

## Sports Report

### Dramatic Wembley Shoot-out

On Saturday, 21 October 2000, SEOS and Trimension Systems of Burgess Hill took on Barco of Belgium in the final 'international' football match to take place at Wembley Stadium. The two companies, who manufacture systems for the simulation virtual reality markets, were able to play at Wembley as part of the stadium's celebrations prior to its being demolished in early November.

Players and an army of fans set out from SEOS Headquarters at 6.30 am and on arrival were able to take part in a tour of the stadium and a reception prior to the match.

Unfortunately, the pitch was unusable because of bad weather and the match was replaced by a penalty shoot-out with each player taking one spot kick.

The tension rose as the two teams stepped out to line up for their national anthems. A combination of fine penalty taking, great saves by both sides and good luck gave SEOS/Trimension a 13-7 victory. As the teams climbed the 39 steps to receive their medals from Her Majesty the Queen (a realistic look-a-like) everyone felt very lucky to have been among the elite few to have played at Wembley Stadium over the last 77 years.

---

---

## Subscriptions

A reminder that SID annual subscriptions can still be paid in the UK in Sterling. Please send your cheque, payable to SID UK to:

Pat Crofts  
49 Brookside  
Sandhurst CAMBERLEY  
GU47 9AP

---

---

### Chairman's Report, continued from Page 1

Plans are in place to improve the UK website. More money will be spent on its maintenance, much of which has been done by voluntary effort to date. Most of you will know that considerable effort is required to keep a website continuously up to date and our web-master has found it increasingly difficult to cope with the demands on his time.

One-day technical meetings have proved to be popular and well attended throughout the year and the committee's thanks go to all the speakers who have given their time to make these occasions so successful.

I am currently looking at the possibility of holding a technical meeting in Dublin. We have neglected Ireland over the past few years, although in fact we have very few members there. One of our committee members, Dr Carol Gibbons, now resides in Dublin and has agreed to sound out the growing technological community in the area. If you or your company has useful contacts in Ireland please let me know, as Dublin is very much a booming vibrant city, and access is now quick and easy.

One thing missing from the UK committee's current activities is discussing feedback from our Chapter

members. Basically, we get very little. We would very much like to seek your views on what activities we should plan for each year's programme. Probably the simplest mechanism to receive members' views is to have some debating time at the AGM. With that in mind some time will be set aside at the next AGM for members to have their say. So try and come along next year and give us your point of view. We are particularly keen to hear your thoughts on the development of the EID conference and what topics to cover at the one day technical meetings. The committee really would like to hear from you!

Regarding the committee, most members are under considerable pressure of work, and many, like me, have served on it for quite a few years! We really do welcome new people who are actively engaged in displays related work and can spare a few days or so throughout the year to attend committee meetings. Interested? Then drop me a line by e-mail. Better still, come to SID @ EID and speak to us on the SID stand.

John Raines. e-mail: [jrsid@gardencitynet.co.uk](mailto:jrsid@gardencitynet.co.uk)

# Calendar

Date	Subject	Venue	Contact
29 Nov - 1 Dec 2000	IDW'00	Kobe, Japan	SID, ITE www.sid.org
19-22 Mar 2001	Les techniques d'affichage et de visualisation: description, mise en œuvre et app.	Grenoble, France	Le Club Visu jverde@clubvisu@wanadoo.fr
Apr 2001	SID UK AGM and one-day meeting details TBA		John Mansell and www.SID.org.uk
3-8 June 2001	SID 2001	San Jose, CA, USA	SID wklein@palisades.org
4-7 Sep 2001	10 <sup>th</sup> Symposium 'Advanced display technologies'	Minsk, Republic of Belarus	SID smirnov@gw.bsuir.unibel.by
16-19 Oct 2001	Asia Display 2001 & International Display Workshops	Nagoya, Japan	
5-9 Nov 2001	Color imaging conference 2001	Scottsdale, AZ, USA	IS&T tel 703 642 9090 Fax 703 642 9094
19-24 May 2001	SID2002	Boston, MA, USA	SID wklein@palisades.org

## Contact Information

Chairman:	John Raines 15 Pond Lane BALDOCK SG7 5AS Tel: 01462 893059 Fax: 01462 893059 jrsid@gardencitynet.co.uk	Vice-Chairman	Sally Day University College Dep of Electronic Engineering Torrington Place LONDON WC1A 7JE Tel: 020 7679 3055 Fax: 020 7388 9325 s.day@ee.ucl.ac.uk
Secretary	Graham Weaver Weaver Associates 53 Lower Road CHALFONT ST PETER SL9 9AP Tel: 01753 882354 Fax: 01753 890211 Graham@ggweaver.force9.co.uk	Treasurer/ Membership Secretary	Pat Crofts 47 Brookside Sandhurst CAMBERLEY GU17 8AP Tel: 01344 762351 Fax: 01344 762351 PatriciaCrofts @pek1.freemove.co.uk
Meetings Registrar/ Newsletter Editor	John Mansell 5 Austen Close EAST GRINSTEAD RH19 1RZ Tel: 01342 323996 Fax: 01342 323996 J_and_K_Mansell @compuserve.com	Webmaster	Ian Sexton Imaging & Displays Group De Montford University The Gateway LEICESTER LE1 9BH Tel: 0116 2577498 Fax: 01684 895113 isexton@iee.org
Director elect	Chris Williams Logystyx UK Ltd Kingsclere House Fox's Lane KINGSCLERE RG20 5SL Tel: 01635 298395 Fax: 01635 299214 chris@logystyx.co.uk		