

SGT NEWS



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Society of
Glass
Technology

INTERNATIONAL CONGRESS ON GLASS

On the occasion of The American Ceramic Society's 100th Anniversary, the 18th International Congress on Glass will take place from 5-10 July 1998, at the San Francisco Marriot, San Francisco, California. The Congress includes four days of technical sessions with more than 800 papers, making it one of the largest and most important events in the glass science and technology calendar. Delegates will hear about the latest developments in glass technology and experts will talk on the state-of-the-art in glass science.

In addition to the technical sessions, the congress provides an extensive social programme. It starts with a reception on the Sunday night and continues with an excursion to Muir Woods and a boat cruise on San Francisco Bay on the Wednesday and a banquet on the Thursday. More than half of the delegates will be from outside the United States, giving participants access to the best minds in glass science and technology from around the world.

San Francisco is one of the most beautiful and enchanting cities in the United States. Tourist attractions include the Golden Gate Bridge, Fisherman's Wharf, the cable cars and Chinatown. The shopping is excellent, with major department stores and centres at Union Square, Ghirardelli Square and the Embarcadero Centre. The city pays homage to glass in several ways: the Transamerica Building is a beautiful example of glass in architecture; Neiman Marcus exhibits Hoya glass; and Gumps has collections of Steuben glass, Baccarat Crystal and jade. The Greater Bay Area Studio Art Glass is a major group of 17 art glass studios.

The programme will be translated from English into the other official ICG languages of French and German, as well as into Japanese.

The Society of Glass Technology is one of the founding members of the International Commission of Glass, born out of the first Congress held in Italy in 1933. The Society held the second Congress in London and Sheffield in 1936 and the eighth Congress in London on 1-5 July 1968. The Society has been selected to host the XIX ICG in 2001 at a venue in Scotland.

TECHNICAL PROGRAMME DESCRIPTION

Industry overviews - Invited presentations, one of which focuses on business issues and the other on technical issues, addressing the current status and future trends of specific segments of the glass industry.

Environmental issues - Industrial overviews and presentations on waste glasses, emissions and environmental stewardship.

Sol-gel - A special symposium on all aspects of sol-gel technology applied to glasses and glass related topics.

Glass science - Invited and contributed papers will be presented on all aspects of the physics and chemistry of glass.

Glass technology - Invited and contributed papers will focus on technological developments in glass making.

Art & archeometry - The preservation and creation of glass artefacts.

Modelling - Results of various types of computer modelling, including both process and atomic scale, will be covered.

SCHEDULE OF EVENTS

Sunday 5 July 7.00pm - 9.00pm



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11TH INTERNATIONAL SYMPOSIUM

**Non-Oxide Glasses and New
Optical Glasses, IS(NOG)²**
The University of Sheffield, UK
6-10 September 1998

Chairman Dr A B Seddon
The International Symposium, held every two years since 1981, is the premier conference for discussion of the latest developments in the field of non-oxide glasses and new optical glasses. There is particular emphasis on the outstanding potential of these glasses for use in passive and active photonic waveguide devices and systems for telecommunications and sensing. Plenary sessions will address glass synthesis, processing, structure, modelling and properties, rare earth doping of glasses, photonic devices including amplifiers, lasers, switches, sensors, and novel phenomena such as photoanisotropy.
Contact: Jill Costello, Society of Glass Technology.

WELCOME RECEPTION

Join congress delegates and companions to open the week with a reception for an early evening of fine food, and camaraderie.

OPENING CEREMONY

All attendees and their spouses are invited to attend the opening ceremony.

Dr Alev Yaraman, FSGT, of Sisecam, Istanbul, Turkey will present a history of the ICG on the occasion of its 65th birthday. This is followed by the presentation of the Gottardi, Weyl and ICG president's awards.

Following a break, Roger Ackerman, chairman and CEO of Corning Inc will present a lecture entitled 'The role of glass in the 21st century'.

Mr Ackerman will offer his observations on new directions in glass research and some resulting new product areas. He will also provide his perspective on the state of the glass industry and the importance of alliances between business, government and academia in fundamental glass research. In addition he will look at the evolving role of the scientists and the engineer in glass technology innovations. Ackerman's insights into the ongoing development and commercialisation of glass technology will be illustrated by a series of case studies which have helped to place Corning, one of America's oldest Fortune 500 companies, at the forefront of many of the fastest growing segments of the world's economies.

The rest of the day will concentrate on parallel technical sessions on:

- Container & tableware industry
- TV & flat glass industry
- Art & archeometry
- Crizzling & related problems in glass
- Crystallisation composition, structure, properties and applications of novel & non-oxide glasses
- Structure evolution in gels
- Structure & applications of sol-gel glasses.

TUESDAY 7 JULY

A full morning of technical sessions is followed by a short technical session in the afternoon and over 250 poster presentations, corresponding with the week's oral technical sessions. The featured technical sessions are: Raw materials in the glass industry; Glass manufacturing; Art & archeometry; Crizzling & related problems in glass; Glass furnace combustion space modelling; Speciality & glassfibre industry; Coatings, surfaces & surface analysis; Diffusion & conduction; Mechanical properties; Colloidal gels & monoliths (sol-gel); Crystallisation of glass ceramics; Glass melt modelling; Glass surfaces - chemical & biological interactions; Properties of glass melts; and Surface mechanical properties.

WEDNESDAY 8 JULY

Congress Excursion, with translation provided, to Muir Woods & San Francisco Bay. Tour buses take delegates across the Golden Gate Bridge into Marin County and Muir Woods National Monument. The giant sequoia trees located here have a biological ancestry dating back well over a million years. Individual redwoods can live to be a thousand years old. After a walk through the forest, the buses return to Sausalito, where guests will board a classic steamer and dining yacht. While we tour the San Francisco Bay and enjoy lunch, guests can see local sites such as the Golden Gate Bridge, Angel Island, Alcatraz and the San Francisco waterfront. After lunch, the tour buses will return guests to San Francisco passing by the colourful restored Victorian homes, Bohemian Italian North Beach, Chinatown and Fisherman's Wharf.

THURSDAY 9 JULY

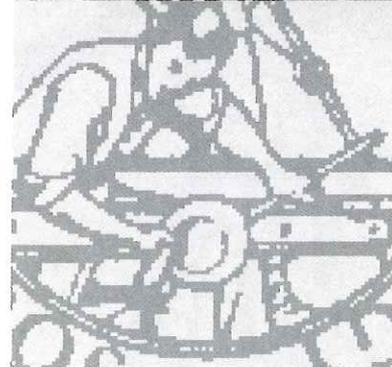
Technical sessions will be given on Oxy-fuel melting; Emerging vitrification technologies; Stress analysis modelling & model based control; Process control; Optical fibres; Planar lightguide components; Diffraction studies; Spectroscopy studies of glass structure; Porous, thin & thick films (sol-gel); sol-gel film devices; Gases in glass; Environmental issues in the glass industry; Bulk glass compositions; Modelling glass structure; and New sol-gel coating applications.

Later in the afternoon Reha Akcakaya of Sisecam, will present 'International congresses on glass: A 65-year record of international glass research'. This will be followed by a poster session.

The congress banquet will be held from 8.00pm on the Thursday evening.

FRIDAY 10 JULY

Technical sessions will dominate the last day of the congress with two sessions on refractory materials and Long term waste glass performance; Waste form properties; Rare earth doped glasses; Radiation & photo-induced effects; Relaxation & the glass transition; Geological glasses; Structure & dynamics of silicate glasses; Organic and inorganic gels; Sol-gel encapsulation; Instrumentation &



sensors; Waste process modelling; Optical properties; Geological glasses: Viscosity & properties of silicate melts; and Sol-gel biotechnology & other applications.

The final day ends at 3.30pm with a closing ceremony and an invitation for delegates to meet again in 2001.

ACCOMPANYING PERSONS' PROGRAMME

A full programme for accompanying persons is included in the conference programme. At all times there is a hospitality suite at the Marriot Hotel, which provides a place to sit and relax and enjoy a chat and refreshments. Open daily Monday 5 July - Friday 10 July.

HOW TO REGISTER

Early registration is not required, but is strongly encouraged for quick pick-up of registration materials and for convenience. Complete and return the meeting registration form available on request from the Society of Glass Technology and send it by mail to: The American Ceramic Society, Dept. 315, Columbus OH 43265, USA. Fax: +1 614 794 5892. Or register via the World Wide Web. Go to www.acers.org, click on 'Meetings' from the site directory (credit card payments only). Or call The American Ceramic Society, customer service department on +1 614 794 5890 (credit card payments only). Early registration deadline is 1 June 1998

ONSITE REGISTRATION HOURS

The registration counter will be in the Marriott Hotel. Attendees, accompanying persons and students who have pre-registered can pick up their congress materials and credentials on the Sunday and during the meeting. ■



Society of Glass Technology,
20 Hallam Gate
Road, Sheffield
S10 5BT.
Tel 0114 2663168.
Fax 0114 2665252.

GLASS OPPORTUNITIES - THE CHALLENGE OF WASTE MANAGEMENT

The Spring Meeting of the Society of Glass Technology will be held from Wednesday 13 to Friday 15 May 1998 at The Dunkenhalgh Hotel, Clayton-le-Moors, Accrington, UK. The theme of the two day conference will be the challenges and opportunities for management at a time of increasing landfill charges and the regulation of packaging waste streams from industry. As well as reviewing legislation and case studies of the responses by industry, the meeting will also look at the use of glass making techniques in the immobilisation of nuclear wastes, asbestos and other hazardous materials.

SGT NEWS



ANNUAL UNDERGRADUATE PROJECT PRIZES

The Council of the Society of Glass Technology wishes to encourage the study of glasses and glass related materials in all centres of higher education around the world. To begin with the UK, Indian and North American Sections will each organise their own awards with a total annual funding of £3000. This new step is a progression of the Society's Undergraduate Project Prize for UK-based students, which has been successful in attracting high calibre entries during the two years that it has been running.

Each prize is dedicated to the memory of an influential glass technologist from each of the regions: Dr Lucy Oldfield for the UK; Professor Alfred R Cooper for North America and Professor Amalendu Paul for India.

THE OLDFIELD AWARD

Lucy Oldfield was one of the most outstanding females to have worked in the glass industry. After completing her PhD at Imperial



Nicola Marriot of the University of Sheffield collects a cheque for £250 from Society President Dr Peter Sewell for the SGT's 1997 undergraduate project prize. Her winning entry was on the formation and properties of canasite glass-ceramics.

College, she went on to work for GEC Research Laboratories and gained international recognition for her work on borosilicate glasses and glass to metal seals. She was awarded the Fellowship (No 158) in 1965 and in 1967 was the second recipient of the London Section's Redston Award. Her interests in glass led to her taking up the challenge of establishing a syllabus on glass science and technology,

subject to examination, at Isleworth Technical (later Hounslow Borough) College. She died in 1989, aged 74. The prize consists of three awards to the value of £500, £350 and £150.

THE COOPER AWARD

Alfred Cooper's studies at Alfred University were interrupted by his service in the US Navy during the war, but he returned there to graduate with a degree in Glass Technology in 1948. He worked for RCA and Emhart before, beginning postgraduate studies at Massachusetts Institute of Technology in 1956. He was awarded his Doctorate in 1960 for

fundamental studies in refractory corrosion. In 1965 he took up the challenging task of establishing a glass and ceramics graduate teaching and research group in what had, until then, been the Metallurgy Department at Case Western Reserve University in Cleveland, Ohio. He was appointed full Professor in 1968 and spent the rest of his very distinguished career there. His achievements were widely recognised by numerous awards, including election to the National Academy of Engineering, distinguished Life Membership of the American Ceramic Society and Fellowship of the Society in 1982 (No 236). Professor Cooper died in 1996, aged 72. The prize consists of three awards to the value of US\$800, US\$550 and US\$250.



LOCAL SECTION CONTACTS
For details of forthcoming local section events in your area, contact the following. All SGT members and non-members welcome.

London
– Mr P West, United Glass Ltd, Porters Wood, St Albans, Herts AL3 6NY. Tel 01727 59261.

Midlands
– Mr C Baldwin, Stein Atkinson Sturdy Ltd, Midland House, Ounsdale Road, Wombourne, Near Wolverhampton WV5 8BY. Tel 01902 324000.

North East
– Mr J Henderson, 44 Woodside Ave, Throckley, Newcastle upon Tyne NE15 9BE. Tel 0191 264 4775.

North West
– Dr D Martlew, Pilkington Technology Centre, Hall Lane, Latbom, Ormskirk, Lancs. Tel 01695 54210.

Scottish
– Mr D A Rennie, United Glass Ltd, Glasshouse Loan, Alloa FK20 1PD. Tel 01259 218822.

Yorkshire
– Miss R M Sales, 20 Blackbrook Drive, Sheffield S10 4LS. Tel 0114 2306179.

NORTH AMERICA
– Dr A G Clare, School of Ceramic Engineering and Sciences, New York State College of Ceramics at Alfred University, 2 Pine Street, Alfred, NY 4802-1296, USA. Tel 607 871 2392.

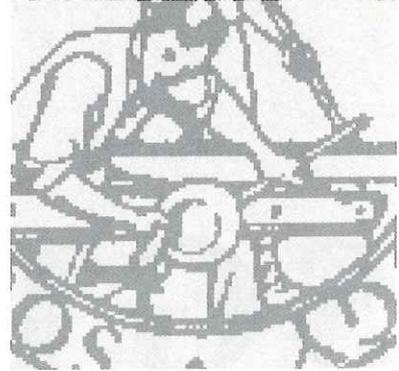
INDIA
– Dr J Mukerji, Central Glass and Ceramic Research Institute, PO Jadavpur University, Calcutta 777 032, India. Tel 473 3496.

STRUCTURE OF NON-CRYSTALLINE MATERIALS, NCM8

The Society of Glass Technology will be holding the Eighth International Conference on the Structure of Non-Crystalline Materials on 6-11 August 2000 at the University of Wales, Aberystwyth. The meeting will be co-chaired by Professor Adrian Wright of Reading University and Professor Neville Greaves of Aberystwyth.

The first notice for the meeting will be sent out later this year and the call for papers in 1999. Further details on the meeting can be obtained from Jill Costello at the Society.

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THE PAUL AWARD

Amalendu Paul was born in India and completed his graduate and postgraduate studies in chemistry at the University of Calcutta and in 1963, was accepted by Professor Douglas to the Department of Glass Technology at Sheffield University, where he was awarded an Owens Illinois Research Scholarship. In 1965 he successfully submitted his PhD thesis *Redox reactions in glass*, a Senior Research Fellowship in 1966 and a Lectureship at the University of Sheffield in 1967. There followed a most productive decade in which he established himself as a world authority on the chemistry of glasses. In 1975 he was awarded the degree of Doctor of Technical Science by the University of Sheffield. In the same year he was elected to the Fellowship of the Society of Glass Technology. In 1977 Paul returned to India, briefly to the Indian Institute of Technology, Kanpur, then in 1978 to the Chair at the Materials Science Centre of the Indian Institute of Technology, Kharagpur. He was the Founding Chairman of the highly sophisticated Central Research

Facility and was the motivating force behind obtaining British Government aid for the central research facility and the optical fibre unit. He published more than a hundred and fifty original research papers, both as sole and co-author. In 1982 he collated this material in his well-known monograph *The chemistry of glasses*. Professor Paul died in 1990 aged 53.

The prize consists of three awards to the value of Rs30000, Rs21000 and Rs9000.

QUALIFICATION

Each of the Awards is for research projects carried out by final year, that is, third or fourth year, undergraduate students (including sandwich students), as part of their degree requirements. The subject of the projects can be any experimental or theoretical investigation relating to amorphous solids, glasses, glass-ceramics, sol-gel materials or ormocers, glass history and archaeology or glass commerce and design. This can include fundamental science, applied science, technology and engineering.

The institution at which the student is registered should:

1. In the first instance, encourage students to have their projects considered for the awards and subsequently nominate one candidate from amongst these students for an award.
2. Submit a copy of the project report from the selected student to the Society by the second week in July. The report should be that which is submitted to the institution for credit and should be accompanied by documentation indicating the fraction of the year's credit the project represents in their course and giving the instructions normally issued to students.
3. Appoint a contact, preferably the project supervisor, who will be responsible for sending the report and documentation and who can provide information on the amount of direction given to the student and the amount of original work included.

The Basic Science and Technology Committee will present the UK award; the Indian Section Committee will judge the Paul Award and The North American Section Committee will judge the Cooper Award. Judging of the reports will be carried out by a panel of academics and industrialists using referees from the appropriate fields where necessary. The final arbiter of the awards will be the Board of Fellows of the Society. The award winners will also receive free membership of the Society for one year.

Further information regarding the schemes can be obtained from:

Miss J Costello
Society of Glass Technology
20 Hallam Gate Road
Sheffield S10 5BT
Tel: 0114 266 3168
Fax: 0114 266 5252. ■

IN PRINT

The June issue of *Glass Technology* features a look at the Society's revised web site with descriptions of all the new features and an outline of future plans. There is also a look at career development opportunities for graduates by Gordon Richardson of the IGDS Office, Department of Engineering, Sheffield Hallam University and a director of Glass Training Ltd.

Refereed papers are on the evaluation of Riyadh white silica sand for glass production, a durable glass ceramic ferrule for general telecommunication use, a contribution to the chemical analysis of fluorophosphate glasses, and analytical investigations on gaseous corrosion of medieval glasses.

Physics and Chemistry of Glasses in June features refereed papers on: evaluation of spectral parameters of Nd^{3+} ion in borate glasses. Part 1, Slater-Condon, spin orbit and Racah parameter; bulk crystallisation of LaBGeO_5 glass produced by Pr_2O_3 . A DTA study; an ionic conduction mechanism for the AgI doped glasses of the system $\text{Ag}_2\text{O}-\text{B}_2\text{O}_3$; XPS analyses of $\text{B}_2\text{S}_3-\text{Li}_2\text{S}$ glasses. Experimental and theoretical study; experimental (XPS) and theoretical (*ab initio*) characterisation of glasses and crystalline materials belonging to the $\text{Li}_2\text{S}-\text{As}_2\text{S}_3$ system; x-ray photoelectron spectroscopy of $(100-x)(0.6\text{Li}_2\text{S} \cdot 0.4\text{SiS}_2) \times \text{Li}_2\text{SiO}_4$ oxysulphide glasses; structural studies of sol-gel processed, amine functionalised ormocils doped with phenyl-capped CdSe quantum dots; synchrotron x-ray fluorescence analysis of gas bubbles in glass; electron paramagnetic resonance and optical absorption spectra of Cu^{2+} ions in $x\text{Kl} \cdot (30-x)\text{K}_2\text{O} \cdot 70\text{B}_2\text{O}_3$ glasses; effect of alkali ions on the optical absorption bands of Ni ion in alkali silicate glasses; glass transition temperatures of alkali vanadate glasses; electron paramagnetic resonance of V^{4+} ions in $\text{ZnO} \cdot \text{B}_2\text{O}_3$ glasses containing vanadium and cobalt ions, and a communication on the possible relevance of the bridging oxygen coordination state to the mixed alkali effect in oxide glasses.



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2001 INTERNATIONAL CONGRESS ON GLASS

The date and venue of the 19th ICG meeting will be 1-7 July 2001 at the Edinburgh International Convention Centre, Scotland.