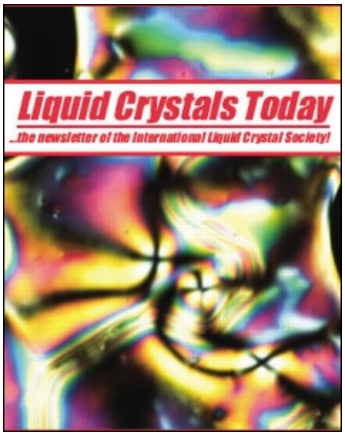

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British Liquid Crystal Society Annual Conference, 1991 Reading, UK

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MEETING REPORTS

E C L C '91, Courmayeur, Valle d'Aosta, Italy, 10-17 March 91

from Claudio Zannoni, Universita di Bologna, Italy

The European Conference on Liquid Crystals, ECLC 91, was organised by the Italian Liquid Crystal Group (GNCL), under the auspices of the Italian Chemical Society (SCI), Italian Physical Society (SIF), Physics of Matter Consortium (INFM) and was made possible by generous grants from the regional governments of Valle d'Aosta and Piemonte, CNR and various other sponsors as well as help from TECDIS, a large locally based liquid crystal display company.

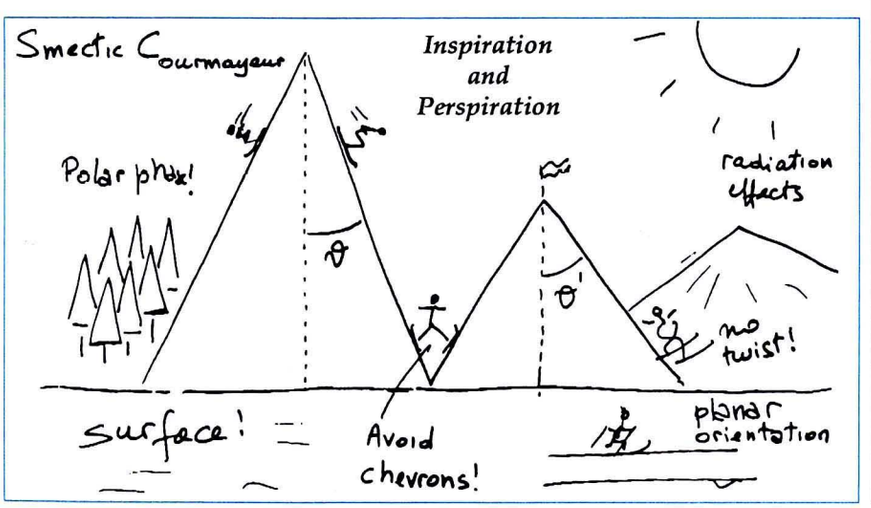
The subtitle of the conference was "Crossroads of Science and Technology" to underline that ECLC '91 was the first European Conference to be held after the great changes with new possibilities for freedom and movement that have taken place in Eastern Europe. One of the aims of the organisers was to try to bring together a large number of active researchers from all over Europe and this was certainly achieved. The conference was attended by 175 participants from 20 countries, with the largest groups coming from Italy (59), USSR (31), France (19), Germany (11), Poland (11), UK (7), Yugoslavia(6).

The scientific activity was structured round four main topics: Films and Interfaces (including biosystems), Organometallic Liquid Crystals, Molecular Dynamics, New Developments in LCDs. The first three themes were introduced by plenary lectures: L D Blinov (Institute of Crystallography, Moscow) talked on "Langmuir-Blodgett films and liquid crystals: properties and Stark spectroscopy", A M Levelut (Lab. de Physique des Solides, Orsay) on "Molecular organisation in metallo-organic mesophases" and F Livolant (CENG, Grenoble) discussed "On the modelisation of flexible molecules in a liquid phase".

There were sixteen invited lectures, with contributions from F Livolant, B Jerome, S A Pikin, F Noack, J K Moscicki, V S Rachevich, D W Bruce, A M Giroud-Godquin, M Ghedini, T Sluckin, C C Huang, R Dabrowski, N V Usoltceva, P Maltese, E P Raynes, P Laggner, 23 oral communications and 120 poster contributions. The problem of technological applications, relations between University and Industry and more generally of "Technology in Western Europe" was debated in a round table by speakers from various western and eastern centres: S Lagerwall (Chalmers University, Goteborg), M Schadt (Hoffman-La Roche, Basel), R B Leslie (Unilever), A Roggero (Eniricerche, Milano), A Smirnov (Minsk Radio-engineering Inst., Minsk).

All the lectures were given at the Centro Congressi in the centre of Courmayeur with a great view of the Alps. The atmosphere was quite informal and a good deal of lively discussion and even arguing went on, as one could rightly expect from such an event. Attendance at the conference was good, even though a strong attraction was represented by the nearby mountains and ski facilities. Even then the right balance between "inspiration and perspiration" was probably achieved and everyone had the opportunity to enjoy the beautiful scenery of Monte Bianco and maybe get some hints on liquid crystals too (see figure!).

During the conference the Annual Meeting of the Italian Liquid Crystal Group was also held, where it was decided to join the International Liquid Crystal Society. The organisation of the next International Liquid Crystal Conference, which will take place in Pisa, 21-26 June 1992, was also discussed. The papers presented at the meeting and accepted after normal refereeing will be published in a special issue of Mol. Cryst, Liq. Cryst. ❑



British Liquid Crystal Society Annual Conference, 1991 Reading, UK,

from Geoffrey Mitchell, J J Thompson Physical Laboratory, University of Reading, UK

Good weather and the attractive campus of Reading University provided a successful backdrop for the 1991 Annual Conference, attended by 147 delegates.

Bill Doane (Liquid Crystal Institute, Kent State University, USA) gave a sparkling lead lecture on "Polymer Dispersed Liquid Crystal Systems". These offer intriguing physics and significant technological developments in optical display systems. Other lectures highlighted future developments involving liquid crystal polymers.

A well-constructed overview of the potential of photo-induced orientation processes in liquid crystal polymers for holography and other applications was provided by Joachim Wendorff (Deutches Kunstoffe Intstitut, Darmstadt). In these systems polarised laser light initiates a selective optical pumping process which, through excitation and relaxation leads effectively to rotation of the local liquid crystal director through 90^0. These effects are produced in the glassy state of the material. Examples were given of the particular potential of polarisation sensitive holograms.

Mike Allen (H H Wills Lab, Bristol University), gave the third invited lecture on the current activity and potential of liquid crystal simulation. Stirring but unresolved discussion from the audience considered the present status of "quality" prediction of liquid crystal behaviour through modelling. The linkage between theory and reality through specific chemical synthesis and study was well illustrated by the presentation of S Fan from Southampton on orientational order in liquid crystal dimers and trimers.

The final conference session saw a variety of contributed lectures on phase behaviour in both thermotropic and lyotropic systems and metallomesogens. Of particular note here was the presentation of Sarah Hudson (Dept of Chemistry, Sheffield University) who gave a magnificent overview of the work at Sheffield on metal containing liquid crystal compounds. This talk attracted the award for the best oral presentation by a young scientist.

In addition to 29 oral presentations there were 34 posters, of which that by Eli Bedford and others (Cambridge University), on the numerical simulation of the director pattern in liquid crystal polymers was adjudged the best. Dr Steve Elston (Exeter) was presented with the BLCS Young Scientist award for 1991. ❑

SOCIETY NEWS

GLENN BROWN AWARD for PhD THESIS

The Planning and Steering Committee of the International Liquid Crystal Conference instituted a prize in honour of Professor Glenn Brown, for an outstanding PhD thesis in the field of liquid crystal research. The laureate is selected prior to each conference in the biennial series of International Liquid Crystal Conferences and will deliver the Glenn Brown lecture at the Conference.

The Award Committee consists of S Chandraskhar (Bangalore); S Kobayashi (Tokyo); H Sackmann (Hallé) and S T Lagerwall (Chairman) (Göteborg). The next award will be presented at the 14th International Conference in Pisa, Italy, June 21-26 1992. Nominations should have reached the Chairman before 10 January 1992.

There are no restrictions regarding the subfield, thus theoretical, experimental or applied work is equally welcome on both thermotropic and lyotropic systems. A thesis can be nominated by anyone and should not be more than three years old.

The nominating person should state his name and affiliation as well as those of student and thesis adviser. In the nomination the full thesis — which will not be returned — has to be accompanied by a four-to-five page abstract in English. If the thesis itself is not written in English, German or French, the abstract should be about twice this length.

Correspondance should be sent to: Prof S T Lagerwall, Physics Dept, Chalmers University of Technology. S-412 96 Göteborg, Sweden.

Membership

Applications for membership continue to arrive and we now have well over 200 registered members.

There are many more liquid crystal scientists who are expected to join, and we look forward to receiving YOUR application (membership form enclosed). We hope that a significant source of income will be through sustaining membership, and if you are in a company with liquid crystal interests perhaps you will propose it for sustaining membership. About 25% of our membership is in countries with non-convertible currencies. We have not yet finalised arrangements for collection of dues from these areas, but hope that an arrangement will appear in the next issue of *Liquid Crystals Today*.

National Societies or groups which have affiliated so far are those from Canada, Italy and the United Kingdom, and we look forward to receiving affiliation applications from other national societies. According to our constitution, affiliation ensures regional representation on the Board of Directors of the ILCS.

Liquid Crystal Science in Italy *(continued from page 5)*

Liquid Crystals as Solvents

The synthesis and characterisation of PLCs and model compounds of low molecular weight is carried out by Sirugi and his group in Napoli. Systems studied include MOLCs, and reticulated LC model compounds. The reactivity of liquid crystalline phases is studied in Palermo by De Maria and his group. In particular LCs are used as solvents to produce organic reactions which otherwise would proceed with difficulty.

The possibility of using lyotropic LCs for this purpose is also studied. Mechanical properties of LCPs are studied in Pisa by Magagnini and his group. Chiellini 's group synthesise and characterise LCPs, with particular emphasis on structural modifications and correlations between chirality and other properties. Surface properties of LCs are researched in Pisa by Faetti and his group by interface ellipsometry, along with the determination of elastic and viscosity properties.

Optical Properties

Phase transitions in LCs are studied by Scuderi and his group in Roma. In particular photothermal and calorimetric critical measurements are made to study the universality classes of different phase transitions in LCs. Non-linear optical effects are being measured in liquid suspensions of dielectric microparticles. Several macroscopic properties, particularly of thin layers and interfaces, are the object of research by Oldano and his group in Torino. Theoretical work is also being done on the statistical mechanics of phase transitions, on the optical behaviour of thin layers and on continuum behaviour. Experimental work on surface characteristics (anchoring energy, surface polarisation), optical properties of a-chiral and chiral systems, noise analysis, dielectric and thermal properties is also beingstudied.

In conclusion liquid crystal science in Italy is alive and well, and has risen to a high level of competence and expertise in a comparatively short time. ❑

Scientific Notes

"New Short-Pitch Bistable Ferroelectric (SBF) Liquid Crystal Displays"

J Fünfschilling and M Schadt,
F Hoffmann-La Roche,
Central Research Units,
CH-4002, Basel, Switzerland

A new type of bistable electro-optical device based on ferroelectric S_c^* liquid crystals exhibiting a short pitch and a large spontaneous polarisation has recently been reported (Japanese Journal of Applied Physics, Vol 30, 1991). SBF-LCDs have short switching times (25 μs) at room temperature, contrast ratios > 35 as well as high multiplexing ratios (> 1000). On-state brightness is large due to memory switching angles of 44°, while response times and memory tilt angles only have a weak temperature dependence.❑