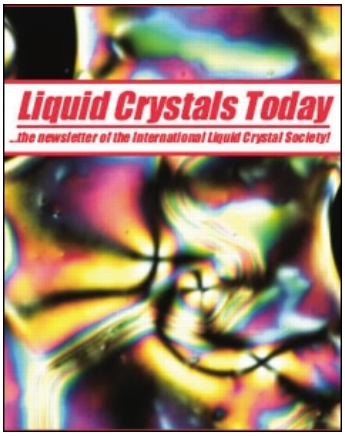

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FLC'97, 6th International Conference on Ferroelectric Liquid Crystals

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FLC'97
6th International Conference on Ferroelectric Liquid Crystals

ENST, Brest, France 20–24 July 1997

Report by
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The Sixth Biennial International Conference on Ferroelectric Liquid Crystals (FLC) was hosted by Professor J. L. de Bougrenet de la Tocnaye at the ENST de Bretagne in France. Consisting of plenary and invited lectures, oral and poster demonstrations, tutorials and a final panel discussion, the conference was attended by more than 250 delegates from 29 countries. The event was kindly supported by the French National Research Council (CNRS), France Telecom, Canon, Sharp and Sony, and saw the participation of many industrial companies such as Displaytech, Toshiba, CRL and NTT. The conference proceedings will appear in a feature issue of the journal *Ferroelectrics* published by Gordon and Breach.

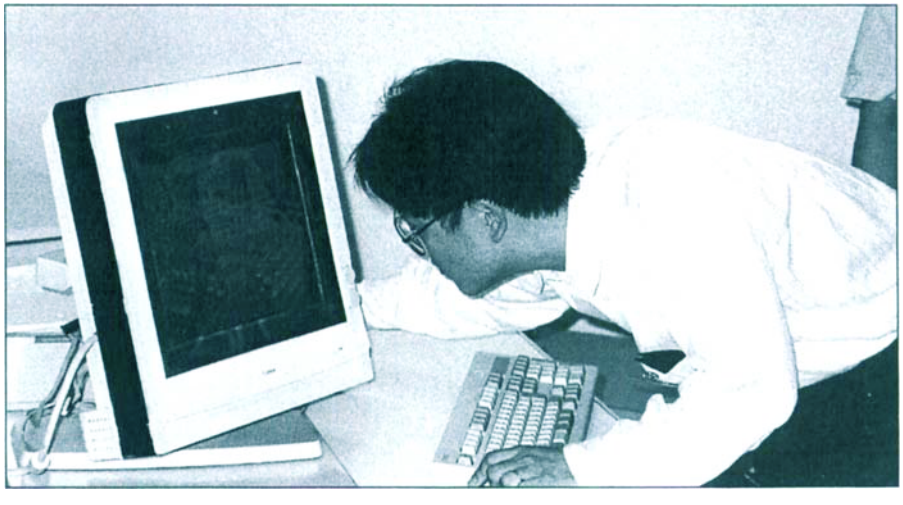
The conference was opened with a plenary lecture given by Professor T. C. Lubensky, dealing with the chirality in liquid crystals from microscopic origins to macroscopic structure. This introduction was followed by a plenary session devoted to chemistry. Professor D. M. Walba presented some observations regarding achiral polar smectic phases, Dr H. T. Nguyen reported the relationship between molecular structures and the existence of SmC*A or TGB phases, and Dr H. Bock discussed some characteristics of switchable columnar phases. A similar session presented the trends in physics. The first plenary lecture was given by Professor N. A. Clark, who talked about chirality and ferroelectricity in liquid crystals, followed by Professor H. Takezoe, who reviewed recent topics in FLC and AFLC from a physics viewpoint. A third plenary lecture was given by Dr P. Cladis dealing with physical aspects of electro-optic properties of SmC liquid crystals, while Professor S. A. Pikin discussed the thickness dependence of polarization and response characteristics in thin FLC films. A plenary session was also devoted to applications with the presentation of the Canon full colour display by Dr H. Mizutani, followed by Dr Wand who presented the Displaytech high resolution colour FLC miniature display. The session was closed by Dr P. W. Surguy from CRL who talked about applications in optical information processing.

In addition, parallel sessions were organized, giving rise to more specialized presentations, in areas of display, optics and telecommunication applications, while other parallel sessions were dealing with more fundamental aspects both in physics and chemistry such as phase transitions, surface interactions and molecular materials.

FLC'97 also gave the delegates, for the first time at an FLC conference, the opportunity to attend a tutorial session, which was much appreciated, particularly due to the strong teaching capabilities of Professors D. M. Walba for chemistry, L. Blinov for physics and W. A. Crossland for applications. This session provided a better understanding of the various aspects of ferroelectric liquid crystals research to the different FLC communities.

In parallel with the poster sessions, at which there were more than 150 posters, a range of demonstrations were presented. These illustrated both various commercial and bench prototypes of ferroelectric liquid crystal devices, including a full colour head-mounted miniature display, full colour antiferroelectric flat panel display, silicon backplane devices and spatial light modulators for optical cross-connects. One of the major events of the conference was surely the demonstration of the 15 inch diagonal digital full colour FLC display presented by Canon. This demonstration enabled the delegates to appreciate the recent technological advances in the flat panel display domain.

The conference was rounded off with a plenary session devoted to the future of ferroelectric liquid crystals, chaired by Professor S. T. Lagerwall and followed by a panel discussion. The panelists were drawn from both industry and university, and each had an opportunity to express their views. The consensus was that the end of the century (and probably the next conference which will be held in Darmstadt) will see the emergence of many commercial antiferroelectric and ferroelectric liquid crystal flat panel displays, as well as a confirmation of some niche markets such as in telecommunications, for which some FLC specificities are attractive provided that more drastic technical requirements can be achieved.



Below – CANON 15 inch FLC Display demonstrated outside Japan for the first time at FLC'97.