

# ***“Recent Trends in Liquid Crystal Research”: A Report***

## ***India-United Kingdom (UK) Science Network***

A three day seminar on the “Recent Trends in Liquid Crystal Research” was held from November 14-16, 2005 at Raman Research Institute (RRI), Bangalore, India. The seminar, first in the series of India-United Kingdom (UK) Science Networks was under the auspices of Department of Science & Technology (DST) New Delhi and The Royal Society, London.

In his introductory remarks Ravi Subramanyam, Director, RRI, extended hearty welcome to all the delegates both from United Kingdom and India to the seminar. He expressed the hope that such scientific interactions will bring more synergy between the scientists and professionals of both the countries for the benefit of science, society and humanity at large. John W Goodby, University of York, UK in his own classic style, was very optimistic about the fruitful results from such seminars and strengthening of the proposed scientific networks between the two countries. It will provide more opportunities and forum for young researchers to form international collaborations. In all 12 oral and 20 poster presentations were made in the seminar, attended by about 50 participants.

Five oral presentations were from UK scientists. The first lecture on Novel chiral effects in liquid crystals by John Goodby was mind blowing. He discussed about various issues in such systems and elaborated on the enantiomer formation and appearance of ferroelectric switching with non chiral moieties at length. Andy Cammidge, University of East Anglia, UK highlighted about the efforts made on the synthesis of discotic liquid crystals and the factors influencing their stability. His lecture mainly focused on the silicon thio-cyannines, polymers and copolymers of siloxanes to enhance the range of applications of such liquid crystalline materials in molecular devices. The lecture by C.T. Imrie, University of Aberdeen, focused on the novelty of liquid crystalline oligomers as the futuristic novel materials. He deliberated on the structure-property relationships in the context of dimers, trimers and tetramers. Helen F Gleeson, University of Manchester expressed her views about the theoretical modeling of various intermediates in chiral smectic c phase, still being debated. She talked about the use of resonant x-ray scattering techniques to determine the structures of such intermediate phases. Duncan Bruce, University of York talked about the Adventures with liquid crystals- from the non-covalent to the inorganic solid state.

The work carried out by Indian scientists was presented by N V Madhusudana, B K Sadashiva, Sandeep Kumar, Krishna Prasad among others. The



**The official speakers’ photograph. Back left: Dr. A N Cammidge, Dr S Krishna Prasad, Prof D W Bruce, Dr Suresh Das, Prof. S Ramaswamy. Front left: Prof S Kumar, Prof H F Gleeson, Prof V G K M Pisipati, Prof J W Goodby, Prof B K Sadishiva, Prof C T Imrie, Prof N V Madhusudana.**

focus was to explain some physical phenomena, review of some recent results on bent core molecules and photo induces effects in liquid crystals. The poster session indeed attracted the attention of the workers and research students depicting some new results on liquid crystalline material synthesis and characterization.



**Poster sessions presenting the work from across India**

In the concluding session, newer areas of liquid crystal research were identified and directions set for further collaborative programmes in this novel area of significance to both experimentalists, physicists, and materials chemists.

It would be wrong to not mention the wonderful social atmosphere that allowed the continuation of discussions beyond the official scientific sessions. The fantastic warm

and sunny weather allowed outdoor lunches and an evening dinner to be held. The food was excellent and the whole atmosphere was one that significantly contributed to the enjoyment and fruitfulness of the visit (this was especially noted by the U delegates).



**Delegates enjoying lunch in the grounds of the Raman Research Institute**



**A lively debate over coffee**

It was indeed a wonderful experience that allowed the sharing of thoughts amongst liquid crystal workers of both the countries. The sponsors of the meeting, the Royal Society, London and the Department of Science and Technology, New Delhi, are sincerely thanked for supporting this exciting and interesting meeting.

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