

LIQUID CRYSTALS Today

Vol. 1 No. 1
January 1991

Newsletter of the International Liquid Crystal Society

A Message from the President

Liquid crystal research has burgeoned in recent years to become an exciting interdisciplinary field with important practical applications, and of course the international community of liquid crystal scientists has also grown accordingly. The formation of an International Liquid Crystal Society (ILCS), announced a few months ago, is therefore most timely and fulfils the need for a forum for the exchange of information between scientists and for promoting greater interaction between basic and applied research.

Amongst the various objectives of ILCS (which include the sponsorship of conferences and workshops, and the preparation of a world directory of liquid crystal scientists), probably the most important one is the publication of a journal. Its purpose is to provide up-to-date reports on recent advances in the field, new materials and devices, forthcoming events, job opportunities, etc. A beginning has been made, and we are happy to present the first issue of *Liquid Crystals Today*.

Greetings for the New Year.

S CHANDRASEKHAR

WELCOME TO READERS

Two contributions in this first issue of *Liquid Crystals Today* give an industrial perspective on the development of Liquid Crystal science.

Although the potential of liquid crystals as optical devices was appreciated in the 1930's, it was not until stable materials became commercially available in the 1970's, that the liquid crystal industry really took off. As the article from Dr Castellano shows, the future remains bright for continued growth in the range of applications and the value of business. However these developments will rely on having a secure research base for liquid crystal science in Universities and Research Institutes, and a steady supply of top-grade trained liquid crystal scientists to provide the back-up for industrial development and production. The responsibility for securing the liquid crystal science base necessary for commercial developments into the next century rests with professional liquid crystal scientists world-wide, and it is hoped that the International Liquid Crystal Society, through its various activities will play an important role in the guardianship and development of liquid crystal science.

Liquid Crystals Today is intended to provide a forum for liquid crystal scientists world-wide, through which information and ideas can be

exchanged. It is a magazine for members of the ILCS, and the contents and style will be determined by the membership. Thus contributions for the next issue are invited and suggested topics might be:

News items; notices of meetings; conference reports; short review articles; letters; new product information; new books information; vacant positions; experimental tips; historical items and reminiscences.

A number of countries now have National Groups of liquid crystal scientists, and it would be particularly interesting to receive reports on liquid crystal activities at national level. It is hoped to feature a different national report in each issue.

Comments and Contributions should be sent to:

Dr D A Dunmur,
Secretary to the ILCS
Department of Chemistry,
University of Sheffield,
Sheffield S3 7HF, UK

Fax: (742) 738673
E-mail: CH1DAD@UK.AC.
SHEFFIELD.PRIMEA

COPY DATE for next issue:
31st MARCH 1991

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LOGO COMPETITION

We need a LOGO!!

Please submit your designs for a LOGO for the International Liquid Crystal Society, to be judged by members of the Board of Directors. A prize (to be decided) will be awarded to the person sending a design suitable for adoption by the ILCS, to be used on its stationery and incorporated into the masthead of this newsletter. Closing date: 31 March, entries to D A Dunmur.

Prehistory of International Liquid Crystal Society 1978-1990

Lui Lam

San Jose State University
San Jose, California

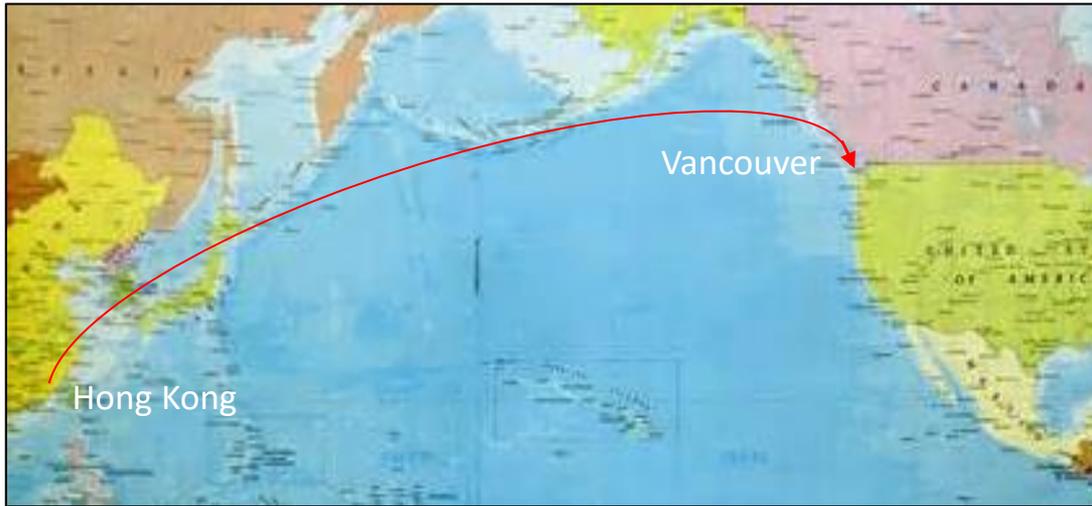
lui2002lam@yahoo.com

Timeline

Liquid Crystal	Year	Lam
Liquid Crystal Inst., headed by Brown, opened at Kent First International LC Conference (ILCC) held at Kent Bill Doane arrived at Kent	1965	Entered UBC, Vancouver, as a MS student
	1966	Entered Columbia U as a PhD student Cultural Revolution in China started
	1968	Anti Vietnam-War student movement at Columbia
Ferguson, Schadt/Helfrich independently invented twisted nematic display	1970	Baodiao Movement started
	1971	Established Chinatown Food Co-op
Gray et al created room-temperature nematics	1975	Moved to Belgium
Chandrasekhar et al created discotics	1977	Published 1 st paper in LC (<i>Z. Physik B</i>)
	1978	Returned to China (worked at IoP, CAS, Beijing)
	1979	Published China's first PRL paper Attended Chandra's Liquid Crystal Conf, Bangalore
8 th ILCC at Kyoto	1980	Nominated to Planning and Steering Committee (PSC)
	1982	Invented Bowlics
	1983	Back to work in New York
	1984	Joined PSC
Mireille Delaye died	1987	Initiated the ILCS Moved to San Jose, CA
12 th ILCC at Freiburg 100 th anniversary of LC discovery	1988	Formation of ILCS approved by PSC at Freiburg
	1989	Drafted the Bylaws
13 th ILCCC at UBC, Vancouver	1990	The new ILCS announced July 27 at UBC, Vancouver Assumed Chair of Conference Committee

1965

Vancouver (UBC)



Lam (age 20)

1978

Chinese liquid crystal community

Xie Yu-Zhang

Ruan Liang

Lam

Ou-Yang Zhong-Can

Zhao Jing-An



1978/1979



Lin Lei, Institute of Physics, Chinese Academy of Sciences, 1979, Beijing

With my two colleagues (later Academicians, CAS) from IoP, August 1978, Lushan



Yu Lu

Wang Dingsheng

by numerically integrating the dynamical equations. They include the effects of boundaries, which increases the difficulty and may explain part of the complicated motion they report. Still, the mechanism seems clear: The system evolves toward a local minimum of \tilde{f} at $\beta=0$ or π ; upon reaching the local minimum, \tilde{f} changes, with the local minimum now a local maximum. The external source of the heat current provides the energy dissipated by this process.

The preceding analysis, based on helical solutions, cannot be quantitatively correct, for it is likely that the unstable helices develop into more complicated time-dependent states. Nevertheless, we expect the qualitative behavior to confirm our second basic result that an applied parallel magnetic field $H > H_c$ should induce a marked time-dependent deformation, whose character depends on the nature of the experiment: A persistent current in a torus should lead to a stable wide-angle helix with reversed but diminished supercurrent, whereas heat flow should produce anharmonic but periodic oscillations of the texture.

This work was supported in part by the National Science Foundation Grant No. DMR78-25258.

¹P. Bhattacharyya, T.-L. Ho, and N. D. Mermin, *Phys. Rev. Lett.* **39**, 1290, 1691(E) (1977).

²A. L. Fetter, *Phys. Rev. Lett.* **40**, 1656 (1978).

³H. Kleinert, Y. R. Lin-Liu, and K. Maki, *Phys. Lett.* **70A**, 27 (1979).

⁴J. B. McLaughlin and P. C. Martin, *Phys. Rev. A* **12**, 186 (1975).

⁵C. Normand, Y. Pomeau, M. G. Velarde, *Rev. Mod. Phys.* **49**, 581 (1977).

⁶W. F. Brinkman and M. C. Cross, in *Progress in Low Temperature Physics*, edited by D. J. Brewer (North-Holland, Amsterdam, 1978), Vol. VIIA, p. 105.

⁷A. L. Fetter, *Phys. Rev. B* **20**, 303 (1979).

⁸Y. R. Lin-Liu, K. Maki, and D. Vollhardt, *J. Phys. (Paris)*, *Lett.* **39**, 381 (1979), and *Phys. Rev. B* **20**, 159 (1979).

⁹H. Goldstein, *Classical Mechanics* (Addison-Wesley, Palo Alto, 1965), p. 219.

¹⁰W. M. Saslow and C.-R. Hu, *J. Phys. (Paris)*, *Lett.* **39**, 379 (1978); S. Takagi, *Prog. Theor. Phys.* **60**, 934 (1978).

¹¹This situation is analogous to the Eckhaus instability discussed in Ref. 5.

¹²The present dynamical equations are insufficient to calculate the period of the motion because $\partial f/\partial \beta$ vanishes at $\beta=0$ or π . The uniform state is thus an unstable equilibrium and fluctuations must be invoked for the system to move away.

¹³J. R. Hook and H. R. Hall, *J. Phys. C* **12**, 783 (1979).

Nematic-Isotropic Transition in Liquid Crystals

Lin Lei

Institute of Physics, Academia Sinica, Beijing, People's Republic of China,⁽¹⁾ and Department of Physics and Astronomy, Northwestern University, Evanston, Illinois 60201

(Received 6 June 1979)

Correlation functions and the Cotton-Mouton coefficient are calculated for liquid crystals beyond the mean-field approximation. My results in the context of a first-order transition are compared with the recent experiments of Keyes and Shane for N-[*p*-methoxybenzylidene]-*p*-butylaniline (MBBA) connecting with the possible tricritical nature of the nematic-isotropic transition.

Recently, Keyes and Shane¹ measured the gap exponent Δ for the nematic-isotropic (N-I) phase transition in N-[*p*-methoxybenzylidene]-*p*-butylaniline (MBBA) in the isotropic phase. They found $\Delta = 1.26 \pm 0.10$ which is consistent with the tricritical value $\Delta = 1.25$ but differs from the mean-field prediction $\Delta = 2$, giving the impression that the N-I transition is actually tricritical in nature. In this Letter, among other things, we show that by going beyond the mean-field approximation the so-called gap exponent Δ is not a constant but in general a function of temperature T . Depending on the temperature range un-

der consideration, the effective exponent can deviate from the mean-field value and may be equal to 1.59, for example. Therefore, the measurement of Δ alone is insufficient in determining the critical or tricritical nature of the N-I transition. In addition, the deviation of the inverse of the Cotton-Mouton coefficient from linearity just above T_c is explained.

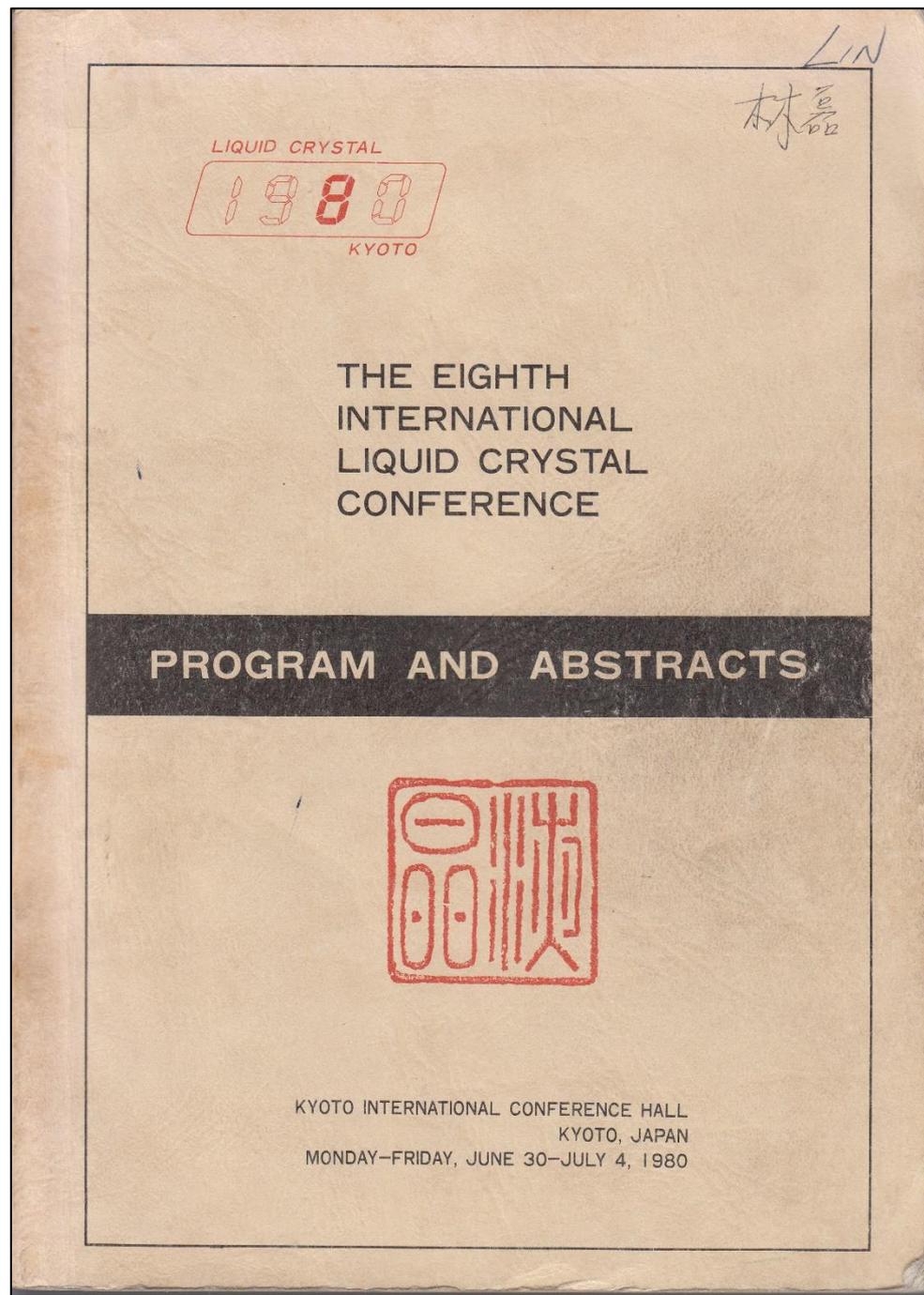
It has been known for some time that the de Gennes-Landau theory² is inapplicable near T_c in the isotropic phase. More recently, contrary to the current belief,³ Lin and Cai⁴ have shown that, quantitatively speaking, the same

1980

June-July, Kyoto

8th International Liquid Crystal Conference

- First ILCC attended by mainland-Chinese scientists
- Lam nominated to the International Planning and Steering Committee



1980

July

Chinese Liquid
Crystal Society
founded

Letter from
Adriann de Vries,
Kent

KENT STATE
UNIVERSITY

KENT, OHIO 44242

LIQUID CRYSTAL INSTITUTE

September 4, 1980

Dr. Lin L.
Institute of Physics
Chinese Academy of Sciences
P.O. Box 603
Beijing
China

Dear Lei:

Thank you very much for your letter of August 11, and for everything you had done to make my visit to Beijing possible. Indeed, I have very good memories from the trip, and a nice series of slides which many people here are very eager to see. The people at your Institute and at the two Universities have received me most graciously, and I was very impressed by the Great Wall.

Congratulations with the formation of the Chinese Liquid Crystal Society, and with your election as Secretary General and Vice President. To my knowledge, too, this is the first such society in the world. Maybe more countries will follow now, and maybe the International Planning and Steering Committee will then also be reorganized in a more formal way. I think it is time for that.

Dr. Lin

- 2 -

September 4, 1980

Then a very minor question. My guide in Beijing was Han Jiankuo. Is he a scientist (Ph.D.?) or does he have another kind of position?

I hope we will remain in touch, and I will be happy to work with your Society in any way I can.

With best regards,

Sincerely yours,



Adriaan de Vries

AdV:aah

Encl.

1980

September

Orsay's "Gang of Four" in China

Roland Ribotta

Maurice Kléman

Georges Durand

Jean Charvolin



Wuhan Provincial Museum

1980

September

Beijing

Kléman and Lam
in Tiananmen



1982

Bowlics invented by Lam

Three Types of Liquid Crystals



Rodic

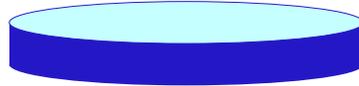
1888

Austria

Natural



Friedrich Reinitzer
(1857–1927)



Discotic

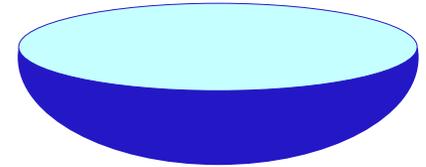
1977

India

Man-made



Sivaramakrishna Chandrasekhar
(1930–2004)



Bowlic

1982

China

Man-made
predicted by theory



Lui Lam

1983

January

Paris



Lam in Kléman's home

1994

February

San Jose, CA



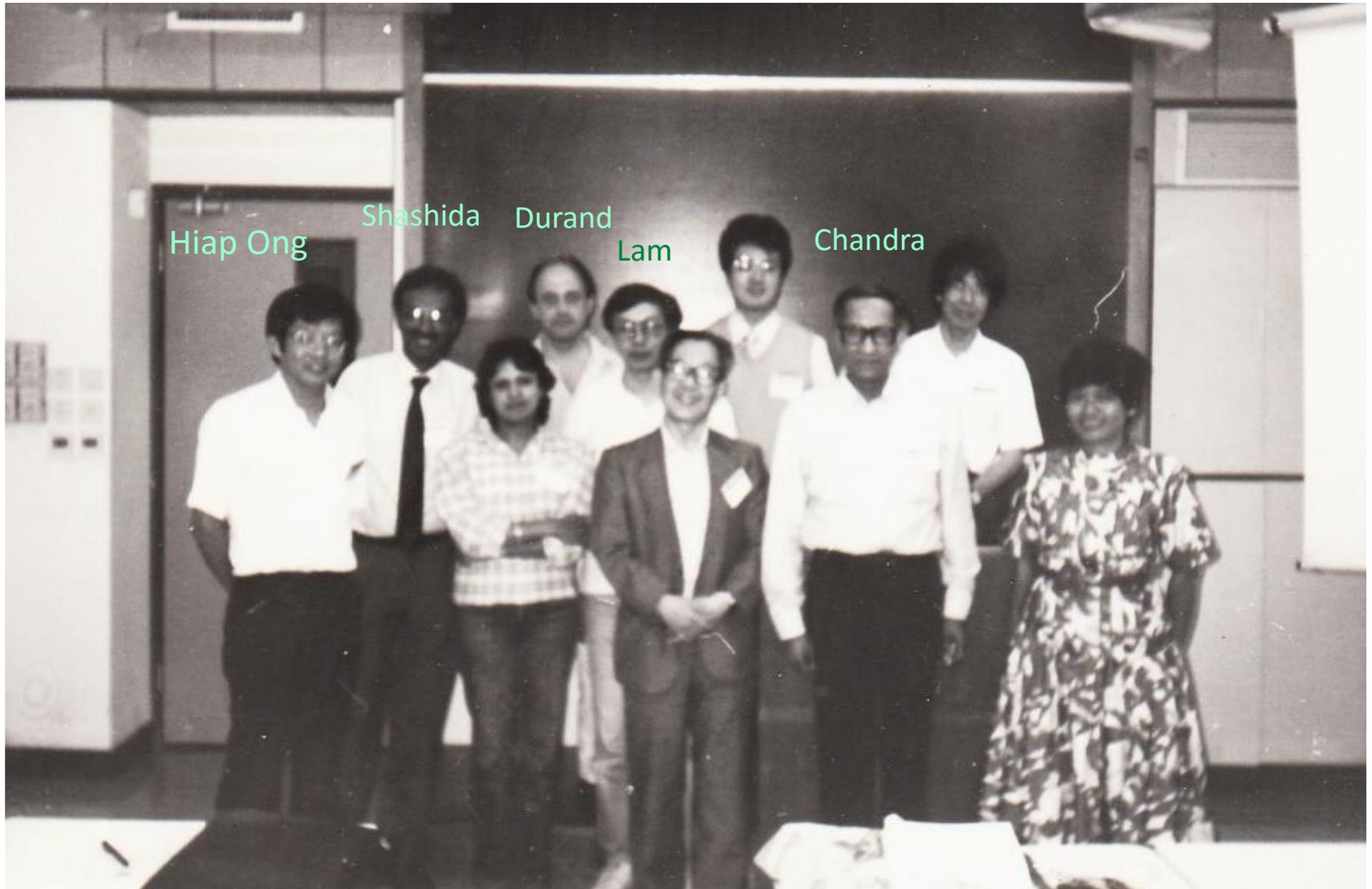
Kobayashi in Lam's home

1988

June

Hong Kong

Chinese University of Hong Kong



1993

April

On the way to Los Alamos

NATO Advanced Research Workshop
Spatio-temporal Patterns In Nonequilibrium Complex Systems
Organized by Pat Cladis and Peter Palffy-Muhoray

Peter Palffy-Muhoray



Woman Liquid Crystalists



Patricia Cladis (USA)

Elisabeth Dubois-Violette (France)

Flonnie Dowell (USA)

Ru-Pin Pan (Taiwan)



Agnes Buka (Hungary)

1987

Orsay

- Mireille Delaye passed away
- Orsay people I knew since 1973 (at Les Houches)
- Four Orsay LC scientists (Charvalin, Durand, Kleman, Ribotta) visited China in 1980
- I was visiting scholar at Orsay in 1980 and 1982

letters to nature

Nature **302**, 415 - 417 (31 March 1983); doi:10.1038/302415a0

Short-range order of crystallin proteins accounts for eye lens transparency

MIREILLE DELAYE* & ANNETTE TARDIEU†

*Laboratoire de Physique des Solides, Bat. 510, Université Paris-Sud, 91405 Orsay, France

†Centre de Génétique Moléculaire, CNRS, 91190 Gif-sur-Yvette, France

In its normal state, the eye lens is transparent despite the presence in the cell cytoplasm of high concentrations of proteins, the crystalline, which, *a priori*, could be expected to scatter an important part of the incident light. Early on, an explanation was sought in the spatial correlations between individual scatterers. Trokel¹ first proposed that the "high concentration of proteins in the lens must be accompanied by a degree of local order approaching a paracrystalline state"; Benedek² subsequently suggested that a dense, noncrystalline packing of the proteins would sufficiently reduce the scattered intensity. However, in spite of an improved understanding of the molecular structure of crystallins³⁻⁶, their spatial order remained unknown. We present here a small-angle X-ray scattering study of the problem, performed with calf lens cytoplasm both in intact lenses and in cytoplasmic extracts where the crystallin concentration was varied from 3 to 510 mg ml⁻¹. **All our experimental data are consistent with short-range spatial order**, as in dense liquids or glasses⁷⁻⁹, and this **provides a simple explanation for lens transparency**^{2,10}. In addition, we detected no conformational change or reorganization of the crystallin proteins throughout the investigated concentration range.

Mireille Delaye

1951-1987

[Journal of Colloid and Interface Science](#)

[Volume 132, Issue 1](#), 1 October 1989, Pages 1–12

Polydispersity of colloidal particles: Intensities for static and dynamic light scattering

[Pedro Licinio](#)¹,
[Mireille Delaye](#)²

Université de Paris-Sud, Laboratoire de Physique des Solides, Bât. 510,
91405 Orsay, France

Received 2 July 1987, Accepted 4 November 1988,

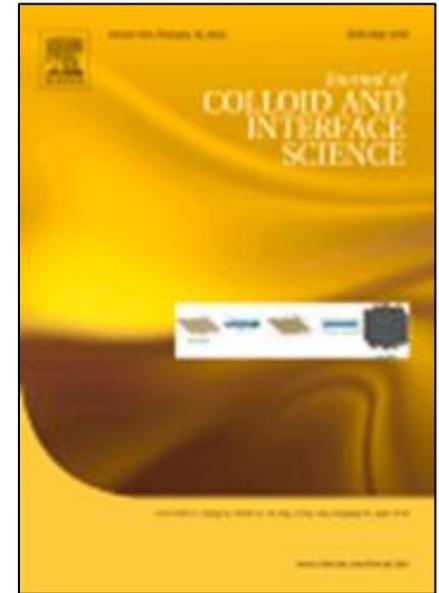
Available online 21 July 2004

[doi:10.1016/0021-9797\(89\)90209-9](https://doi.org/10.1016/0021-9797(89)90209-9)

¹ On leave from Universidade Federal de Minas Gerais, Depto, de Física ICEX, 30000, Belo Horizonte, MG, Brazil.

² Deceased (8/3/1951–11/3/87).

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1987

Lam

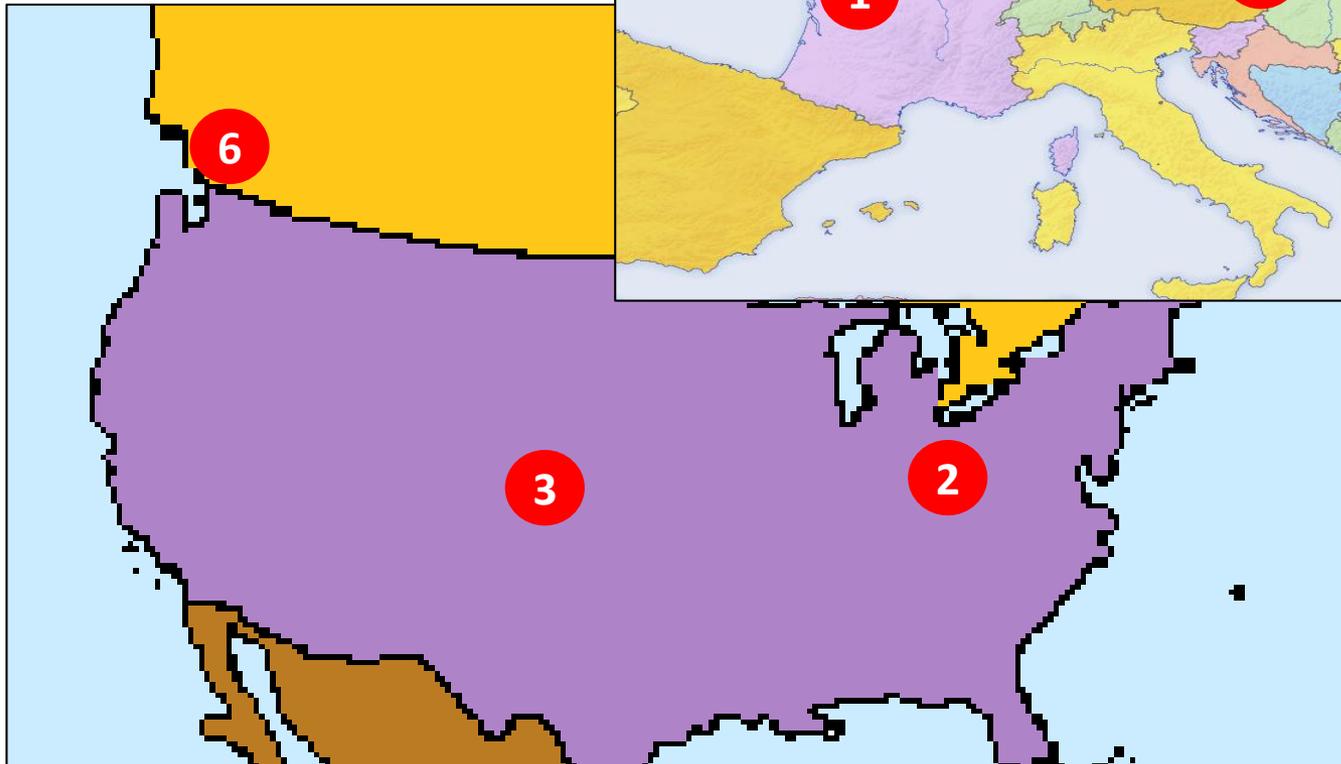
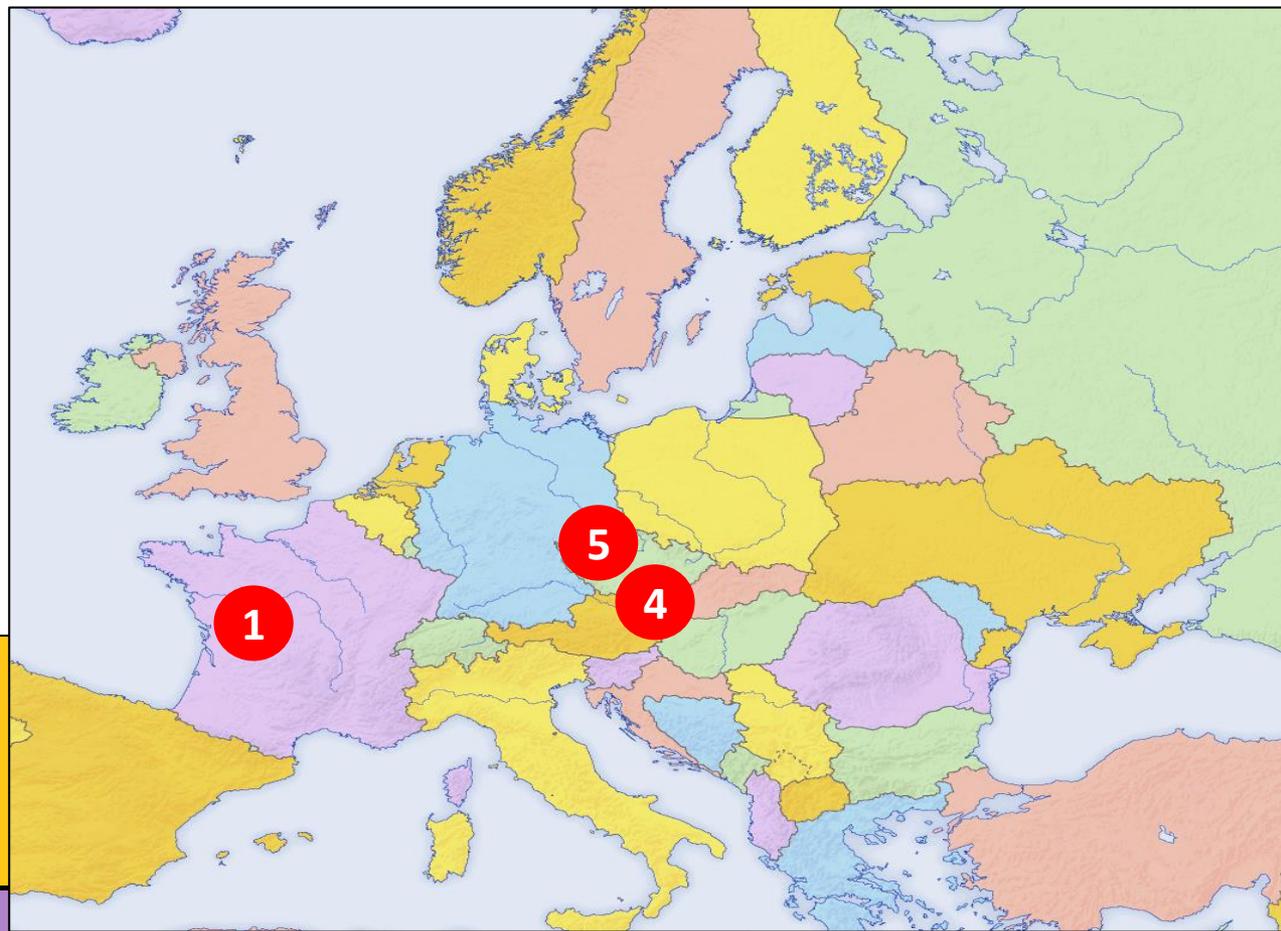
At this point, I had

- Worked in LC for 15 years (since 1972)
- Published 56 LC papers (since 1977)
- Co-founded the Chinese Liquid Crystal Society (1980)
- Invented a new kind of LC called Bowlic (1982)
- Pioneered the study of propagating LC solitons in shear flow (1982)
- Set up a Springer series (*Partially Ordered Systems*) that includes LC books
- Sit on the editorial board of the only two LC journals (*Liquid Crystals* and *MCLC*)
- Was a current member of the PSC—the power center of the LC profession
- I knew nearly everybody in LC, East and West.

1987/1988

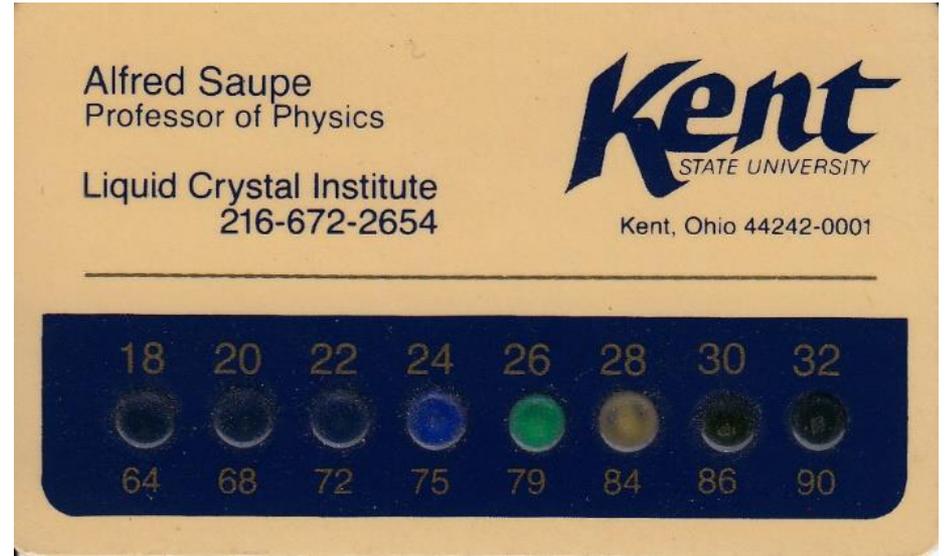
Connecting

1. July, Bordeaux
2. Aug., Kent
3. Aug., Boulder
4. Aug, Budapest
5. Aug/Sept., Pardubice
6. Feb., Vancouver



1987

Summer
Kent (LCI)



11th International
Liquid Crystal CONFERENCE

Lei Lin, Beijing, China

18 20 22 24 26 28 30 32
64 68 72 75 79 84 86 90

**READ GREEN—EXACT TEMPERATURE
BLUE—ADD 1°C TAN—DEDUCT 1°C**

**EACH DOT ON REVERSE SIDE CONTAINS OVER 50,000
INDEPENDENT SENSOR-TRANSDUCERS, EACH OF WHICH
CONTAINS CHOLESTERIC, NEMATIC OR SMECTIC LIQUID
CRYSTAL FORMULATIONS. THEY ARE ENCASED BY A
ZONE-REFINING LIQUID CRYSTAL MEMBRANE PROCESS.
AMERICAN THERMOMETER CO., INC., DAYTON, OHIO
513-228-2817 TELEX: 28-8217 (ATC AMT DTN)**

1986

1987

August/September
7th Liquid Crystal Conference
of Socialist Countries



PARDUBICE

Professor S. CHANDRASEKHAR

RAMAN RESEARCH INSTITUTE

BANGALORE-560 080

October 25, 1989

To

THE MEMBERS OF THE PLANNING AND STEERING COMMITTEE
FOR INTERNATIONAL LIQUID CRYSTAL CONFERENCES

Dear Colleague,

Following the suggestion that I made in my letter of July 4, 1989, a meeting was held on August 29, 1989 at Modlnica Manor near Krakow to discuss the possibility of merging the two series of conferences - the International Liquid Crystal Conferences and the Liquid Crystal Conferences of Socialist Countries - into a common series. The host, Prof. J.A. Janik, acted as the Chairman of the meeting. Although discussions went on for more than two hours, no definite conclusions were reached. I am enclosing a summary of the discussions, as prepared by Prof. Janik.

I am also enclosing a copy of a letter from Dr. G. Baur, Fraunhofer Institut, Freiburg (who was unable to attend the Krakow meeting) giving his views on the same question.

Evidently there is no unanimity on this issue and further discussions are necessary before definite conclusions can be reached.

With best wishes,

On Nov. 9, 1989 the crumbling of
Berlin Wall removed this issue

A handwritten signature in dark ink, appearing to read 'S. Chandrasekhar'.

Chairman
Planning and Steering Committee

1987

Letter from Bill Doane

Liquid Crystal Institute

(216) 672-2654



Kent, Ohio 44242-0001

August 10, 1987

Professor L. Lam
Department of Physics
San Jose State University
San Jose, CA 95192

Dear Lin-Lee:

It was nice of you to visit the Institute on your way to California. Your idea of a Society of Liquid Crystal Researchers is excellent. If we at Kent can be of help in this endeavor, please let us know.

Sincerely,

A handwritten signature in black ink, appearing to read "Bill Doane".

J. William Doane, Director
Liquid Crystal Institute
and Professor of Physics

ajd

1988

March

Act I

- Distributed by mail to a selected group, including all PSC members
- ILCS will publish magazine, *Liquid Crystal Today* (modeled after *Physics Today*) but not journals
- Expanding the PSC to form the ILCS recommended as most practical
- Proposed to form ILCS at Freiburg in August
- A questionnaire for response attached

3/2/88

Founding the International Liquid Crystal Society - Act I

(The ideas suggested below are meant to induce discussion. There is nothing final about it - L.L.)

Name: International Liquid Crystal Society

Aim:

1. To serve the interest of liquid crystalists as individuals.
2. To provide a forum for people and organizations to exchange information and ideas.
3. To serve the need of the liquid crystal community, scientists and industries, in general.

Membership: Individuals join as members; lab or group may join as a unit; company and national liquid crystal group may join as corporation member.

Membership Due: Keep it as low as possible. Members from countries with hard currency pay in US\$ (or equivalent); those from other countries pay in their own currency. Reduced rate for students.

Function: Publish a newsletter (something like the Physics Today but less formal, incorporating some features of newspapers) once every two months (or may be 3 months in the first year). Organize meetings, summer or winter schools, short courses. The newsletter may be sent to each country or district in bulk and distributed by the local chapters using the local currency collected from the membership dues.

Organization: Local chapters may be formed in each country (if there is enough membership), groups of countries, or different geographical sections within a country, upon the approval of the governing board.

Relationship with the existing International Steering and Planning Committee:

There are three possibilities:

1. completely independent of each other.
2. incorporate the Committee under the Society.
3. form the Society from the Committee by expanding it, and then reorganize or keep the Committee intact and put it under the Society.

(It seems to me that 3. is most practical.)

Date of founding: August 1988 during the 12th International Liquid Crystal Conference at Freiburg, West Germany. It is the centenary discovery of liquid crystal and is a good occasion; time frame is right too.

Glenn Brown's response

Rec'd 3/28/88

3/2/88

Questionnaire (founding of the international liquid crystal society)

(Please fill out this form and return it immediately, not later than March 20, 1988 if possible. Return address: Prof. Lui Lam, Department of physics, San Jose State University, San Jose, CA 95192, USA..)

Name: GLENN H. BROWN
First Middle Last

Address: 470 Harvey Ave.
Kent, OH 44240

Telephone: 216-673-1146 Telex: _____ Fax: _____

Bitnet no: _____

The Society should be formed. Yes No

If yes, it should be founded on Aug. 1988. Yes Other date _____

I agree with the ideas expounded in the last page ("Act I") except for the following:

Name of Society: _____

Aim: _____

Membership: _____

Membership due: _____

Function: _____

Organization: _____

Relationship with International Steering and Planning Committee:

1. _____ 2. _____ 3. other _____

Signature

Glenn H. Brown
jb.

Date

3-22-88

Dr. Lam:

I agree with your suggestions for the organization of an International Liquid Crystal Society. No doubt there will be much discussion of your proposal. I am interested in knowing what develops.

Sincerely,
Glenn H. Brown
jb

Rec'd 3/24/88

3/2/88

Bill Doane's response

Questionnaire (founding of the international liquid crystal society)

(Please fill out this form and return it immediately, not later than March 20, 1988 if possible. Return address: Prof. Lui Lam, Department of physics, San Jose State University, San Jose, CA 95192, USA.)

Name: J. WILLIAM DOANE
First Middle Last

Address: LIQUID CRYSTAL INSTITUTE
KENT STATE UNIV, KENT OH 44242

Telephone: (216) 672-2654 Telex: 6726 Fax: (216) 672-2796

Bitnet no: GHBLCI

The Society should be formed. Yes No

If yes, it should be founded on Aug. 1988. Yes Other date _____

I agree with the ideas expounded in the last page ("Act I") except for the following:

Name of Society: The International ^{L.C.} Conference already exist of
Aim: functions as a society. This would formalize it and make it more functional.
Membership: It would also provide more direction
Membership due: and perhaps being attract more
Function: applied personnel from industry and
applied science. Today, industry tends
Organization: to report its work in the SID conferences. The
proposed society should compete with SID for the
united word.

Relationship with International Steering and Planning Committee:

1. _____ 2. _____ 3. _____ other _____

Signature Bill Doane Date 3/8/88

Please use the back to detail your opinions or comments.
I think it is important that the creation of the Society be done through the planning of the steering committee.

Martin Schadt's response

Rec'd 3/24/88

3/2/88

Questionnaire (founding of the international liquid crystal society)

(Please fill out this form and return it immediately, not later than March 20, 1988 if possible. Return address: Prof. Lui Lam, Department of physics, San Jose State University, San Jose, CA 95192, USA..)

Name: Dr MARTIN SCHATZ
First Middle Last

Address: CENTRAL RESEARCH LABS, F. HOFFMANN-LA ROCHE
4002 BASEL, SWITZERLAND

Telephone: 061-271122 Telex: 962292 HLRCH Fax: 061 269391

Bitnet no: _____

The Society should be formed. Yes No

If yes, it should be founded on Aug. 1988. Yes Other date _____

I agree with the ideas expounded in the last page ("Act I") except for the following:

Name of Society: _____

Aim: _____

Membership: _____

Membership due: _____

Function: _____

Organization: _____

Relationship with International Steering and Planning Committee:

1. _____ 2. _____ 3. other _____

Schatz 14.3.88
Signature Date

Please use the back to detail your opinions or comments.

1988

May

Act II

- Responses (61 replies from 14 countries) summarized here
- Got no response from Gray and Chandra
- Proposed using the PSC as basis in forming ILCS (with Bylaws drafted later)
- Proposed open discussion by Freiburg participants before founding (a mass organization approach)

For Lui Lam, Phys. Dept., SJSU, Telephone: (408)924-5261, Fax: (408)924-1018, Telex: 171171 UD
(Note new fax number)

5/25/88

Founding the International Liquid Crystal Society - Act II

The response to Act I (3/2/88) questionnaire is very positive. At this point there are 61 replies from 14 countries, including those from 9 present members and 2 past members of the International Planning and Steering Committee for International Liquid Crystal Conferences. Summing up the comments expressed by those who responded,

- The International Liquid Crystal Society should be founded at the 12th Int. Liq. Cryst. Conf. at Freiburg, Aug. 15-19, 1988.
- It should be organized with the existing International Planning and Steering Committee as the basis.
- There should be open discussion by those attending the Freiburg conference before the founding.
- The publication of Newsletter by the Society is desired. One suggested to have it monthly; another one for quarterly; the rest seems to content to have it bimonthly.
- The membership fee should be as low as possible. (For clarification, the membership dues from members in countries without hard currency can be collected as long as it is not transferred outside. This will be used within those countries to mail the newsletter and for functions sponsored or endorsed by the Society. For countries in which paper is a scarce material printed newsletter has to be sent in in bulk; for others a good copy can be sent and reprinted there.)
- Concern has been expressed (by one) on the autonomous of local chapters. If there is no financial support from the central office to local chapter, the local chapter should be autonomous, in contrast to the practice in the Society of Information Display, it was suggested. Please keep this issue in mind and we will discuss it at Freiburg.
- In view of the positive and extensive responses outlined above I have written to S. Chandrasekhar, Chairman of the Int. Planning and Steering Committee, and to the organizers of the Freiburg Conference requesting that the International P&S Committee to start discussion on these suggestions, and to make arrangements (time and place) during the Conference for the participants to hold meetings, respectively.
- A name list of all those who sent back their questionnaire to me as of today is enclosed here for your reference. All support the founding of the Society.
- A brief statement as an open letter to the participants of the Freiburg Conf. is prepared here and will be distributed to all during the registration period (assuming the consent of the organizers, of course). If you want to remove or add your name to the list please mail the form back to me before July 15, 1988 (the date the form should reach me). If you agree to have your name there, do not take any action. Of course, your comments are always welcome. Please copy these pages and help distribute to your colleagues.


Lui Lam

1988

August, Freiburg

12th ILCC

Centenary discovery
of liquid crystal

LAM



THE TWELFTH INTERNATIONAL
LIQUID CRYSTAL CONFERENCE



FREIBURG

15 - 19 August 1988

PROGRAM OF EVENTS

1988

August, Freiburg
Petition flyer

- Flyer distributed in Freiburg before Aug. 16, date of the PSC meeting on 2nd day of conference
- 82 signers: 1 from UK, 0 from India

Call for Establishing an

INTERNATIONAL LIQUID CRYSTAL SOCIETY

Colleagues:

The 12th International Liquid Crystal Conference Marks the centenary of the discovery of liquid crystals. The number of people working in this field, the interdisciplinary character of the research on these unique and fascinating materials, the productive collaboration between industry and university and the importance of liquid crystals in new industries require a permanent organization dedicated to serving the international liquid crystal community. We invite all participants at this Conference to attend an organizational meeting to plan the formation of an INTERNATIONAL LIQUID CRYSTAL SOCIETY.

Signed:

BRAZIL

* Figueiredo Neto, Antonio
Fujiwara, Fred Yukio
Santos, Marcus B. L.

BULGARIA

Derzhanski, Alexander I.
Petrov, Alexander G.

CANADA

Bergersen, Birger
Burnell, E. Elliott
Dong, Ronald Y.
Gilson, Denis
Leigh, William James
Tracey, Alan S.

CHINA

Dong, Chuchuan
Li, Guozhen
Liang, Ruan
Liang, Zhong Cheng
Liu, Han-Ming
Shao, Ren-Fan
Wang, Bin
Wang, Liang Yu
Wang, X. J.
Xi, Guangeng
Xi, Hua
Xie, Yu-Zhang
Yang, Shong Ling
Zhao, Jing An
Zheng, Shu
Zhong, Guofu
Zhengmin, Sun

CZECHOSLOVAKIA

Pirkli, Slavomir

FRANCE

Charvolin, Jean
* Durand, Georges
Gasparoux, Henry
Hardouin, Francis
Noel, Claudine
* Prost, Jacques

GERMAN DEMOCRATIC REPUBLIC

* Demus, Dietrich

HUNGARY

Bata, Lajos
Buka, Agnes

ITALY

Rustichelli, Franco

JAPAN

Kawamura, Yasuaki
+ Kobayashi, Shunsuke

NETHERLANDS

* De Jeu, Wim H.

POLAND

Janik, Jerzy A.

SWITZERLAND

Lierau, Rolf R.
Schadt, Martin

UNITED KINGDOM

Clark, Michael George

UNITED STATES

Acree, William E., Jr.
Armitage, David
+ Brown, Glenn
* Clark, Noel A.
Davis, Frederick
+ De Vries, Adriaan
* Doane, William J.

Dowell, Flonnie
Drzaic, Paul S.
Fishel, Derry L.
Gelbart, William M.
Gelerinter, Edward
+ Kahn, Frederick J.
Keast, Sandy S.
Kumar, Satyendra

* Lam, Lui

* Litster, James David
Mahmood, Rizwan
McAdams, Larry R.
McRuer Robert N.
Meyer, Robert B.
Neubert, Mary E.
Ong, Hiap Liew
Petschek, Rolfe George
Rosenblatt, Charles
Shen, Y.R.
Ukleja, Paul
Vargas-Aburto, Carlos
Vaz, Nuno A.
Vora, Rasiklal A.
Westerman, Philip W.
Wu, Shin-Tson

USSR

* Blinov, Lev M.
Shibaev, Valery Petrovich

YUGOSLAVIA

Blinc, Robert
Zeks, Bostjan

* Present member.) of the International Planning and Steering
) Committee for International Liquid Crystal
+ Past member.) Conferences.

1965, 1968

Planning and Steering Committee for International Liquid Crystal Conferences

Glenn Brown: Founder of International Liquid Crystal Conferences (ILCC)

1965 ILCC, Kent

Chair: Glenn Brown

Planning Committee:

George Gray (UK)

A. J. Mabis (USA)

Alfred Saupe (USA)

Steering Committee:

J. Dreyer (USA)

Jim Ferguson (USA)

H. McCune (USA)

1968 ILCC, Kent

Chair: Glenn Brown

Planning and Steering Committee:

E. J. Ambrose (UK)

I. Chistyakov (USSR)

R. D. Ennulat (USA)

George Gray (UK)

Roger Porter (USA)

Alfred Saupe (USA)

A. Skoulios (France)

Gordon Stewart (USA)

1980-1990

Members of the Planning and Steering Committee

- Chair of the PSC marked by yellow cell
- Gray's term, like others', ended after a maximum of 8 years (marked by 5 x)
- Two exceptions: **Brown**, honorary chair after Kyoto; and **Chandra** served more than the maximum of 8 years in PSC

	Name	Country	1980	1982	1984	1986	1988	1990
ILCC			8th	9th	10th	11th	12th	13th
Number of PSC members			19	20	20	20	21	20
1	Ambrose, E. J.	UK	x	x				
2	Baur, G.	FRG						x
3	Blinov, Lev	USSR			x	x	x	x
4	Bouligand, Y.	France	x	x	x			
5	Brown, Glenn	USA	x	x	x	x	x	x
6	Chandrasekhar, S.	India	x	x	x	x	x	x
7	Chistyakov, I.	USSR	x	x				
8	Clark, Noel	USA					x	x
9	Demus, Dietrich	DR				x	x	x
10	Doane, William	USA					x	x
11	Durand, Georges	France			x	x	x	x
12	Figueiredo-Neto, Antonio	Brasil				x	x	x
13	Friberg, S. H.	USA		x	x			
14	Fukuda, Atsuo	Japan					x	x
15	de Gennes, Pierre-Gilles	France	x	x				
16	Gray, George	UK	x	x	x	x	x	
17	Gerritsma, C. J.	Netherlands	x	x	x			
18	Hosemann, R.	FRG	x	x				
19	Janik, Jerzy	Poland			x	x	x	x
20	de Jeu, Wim	Netherlands					x	x
21	Kahn, Fredic	USA	x	x	x	x		
22	Kelker, H.	FRG	x	x	x			
23	Kobayashi, Shunshuke	Japan	x	x	x	x		
24	Lagerwall, Sven	Sweden			x	x	x	x
25	Lam, Lui (Lin, Lei)	USA (China)			x	x	x	x
26	Leadbetter, Alan	UK			x	x	x	x
27	Lister, J. David	USA			x	x	x	x
28	Meier, Gerhard	FRG	x	x	x	x	x	

1988

September

Act III

Letter summaries PSC's action in Freiburg:

- PSC held its meeting Aug. 16, declared Chandra (nominated by Gray) to continue as Chair (for the 3rd term to reach 1990)
- Approved Lam's proposal to form ILCS after the petition was presented
- A preparation subcommittee formed (Chandra, Doane, Fukuda, Lagerwall, Lam)
- Lam assigned to prepare Bylaws

9/20/88

The Founding of an International Liquid Crystal Society - Act III

In response to the suggestion of you and many other colleagues (see Act II), the Planning & Steering Committee for International Liquid Crystal Conferences agreed to transform itself into an International Liquid Crystal Society during their business meeting in the afternoon of August 16, 1988, at Freiburg, FR Germany. A subcommittee consists of

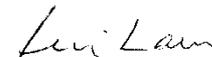
S. Chandrasekhar (India)
W. Doane (USA)
A. Fukuda (Japan)
S. Lagerwall (Sweden)
L. Lam (USA)

was approved by the Planning & Steering Committee during the meeting. The subcommittee was charged to formulate the details of the transformation and make proposals to the P&S Committee. All the above were announced by the Chairman of the P&S Committee, Dr. S. Chandrasekhar, at the end of the awarding ceremony of the 2nd Glenn Brown Award on August 17, 1988 at the 12th International Liquid Crystal Conference at Freiburg.

In the subsequent meeting of the Subcommittee on August 18, 1988 at Freiburg, L. Lam was asked by the subcommittee to write the first draft of the bylaws of the upcoming International Liquid Crystal Society.

In short, our effort to found the I.L.C.S. has been fruitful. From this point on, any questions or comments concerning the future I.L.C.S. should be directed to members of the Subcommittee. In matters relating to the drafting of the bylaws please send your suggestions (or a copy of your writing) directly to L. Lam [Dept. of Physics, San Jose State University, San Jose, CA 95192, USA. Tel.: (408)924-5261]. This will shorten the time of communication and enables the International Liquid Crystal Society to be born earlier.

Thank you very much for your support in the past and in the future.



Lui Lam

1989

July
Act IV

Bylaws drafted by Lam

Tel: (408) 924-5261 Fax: (408) 924-1018
Bitnet: LUILAN@CALSTATE (after 8/25)

July 15, 1989

To: Subcommittee to establish Int. Liq. Cryst. Soc. (ILCS)
(S. Chandrasekhar, W. Doane, G. Durand, A. Fukuda, J.A. Janik,
S. Lagerwall, L. Lam, A.J. Leadbetter)

From: Lui Lam

Re: Drafting the bylaws of ILCS

Lui Lam

o I will not be able to attend the 8th LC Conf. of Socialist Countries in Krakow, Poland, Aug. 28 - Sept. 1, 1989. I cannot get away from my teaching duties at that time. Fortunately, Chandra may be able to attend that, and I hope many of you will be there. I agree with Chandra that the occasion could be used for the members to discuss the bylaws and the possibility of merging the "Western" and the Socialist Countries Conferences into a single series. I am all for this idea.

o Enclosed please find a copy of the **SID Bylaws**, and the **Constitution and Bylaws of the American Physical Society** for your references.

o Here is some skeletal form of Bylaws for the ILCS written by me. It is for discussion and as a basis of modification by the Subcommittee. I intend it to be brief and general (as compared to those of SID and APS) since we are doing it for the first time.

Bylaws of the International Liquid Crystal Society

Article 1 - NAME

The Society shall be called The International Liquid Crystal Society, hereafter called the ILCS.

Article 2 - OBJECT AND SCOPE

1. The object of this Society shall be:
 - (a) To encourage the scientific, literary and educational advancement of liquid crystals.
 - (b) To provide a forum for individuals and organizations to exchange information and ideas relating to liquid crystals.
 - (c) To serve the need of the liquid crystal community, including both individual scientists and the industry.
2. The scope of the ILCS is non-national.

Article 3 - MEMBERSHIP

1. Grades and Qualifications
 - (a) Student Member - An individual pursuing an undergraduate or graduate degree.
 - (b) Associate Member - An individual interested in furthering the object of the ILCS.

1990

July, Vancouver

13th ILCC

Lam back to UBC,
25 years after first arrival,
age 45

L. LAM

The 13th International Liquid Crystal Conference

13th ILCC

July 22 - 27, 1990
University of British Columbia
Vancouver, British Columbia, Canada



BOOK I

General Information
&
Oral Presentations

1990

July 27

ILCS announced

- Announcement prepared by Lam
- First official document issued by the ILCS

ANNOUNCEMENT

International Liquid Crystal Society (ILCS)

ILCS is pleased to announce its existence, and to invite applications for membership.

ILCS is a voluntary, non-profit international organization. The objects are (i) to encourage the scientific and educational advancement of liquid crystals; (ii) to provide a forum for individuals and organizations to exchange information and ideas relating to liquid crystals; and (iii) to serve the need of the liquid crystal community, including both individual scientists and the industry. Membership consists of student member, associate member, member, sustaining member and affiliate Society member. (See the bylaws for more details.)

The Board of Directors of ILCS currently consists of G. Baur (Germany), L.M. Blinov (USSR), G.H. Brown (USA), S. Chandrasekhar (India), N.A. Clark (USA), W.H. de Jeu (The Netherlands), D. Demus (Germany), J.W. Doane (USA), G. Durand (France), A.M. Figueiredo Neto (Brasil), A. Fukuda (Japan), J.A. Janik (Poland), S.T. Lagerwall (Sweden), L. Lam (USA), A.J. Leadbetter (United Kingdom), J.D. Litster (USA), K. Okano (Japan), J. Prost (France), F. Rustichelli (Italy) and H. Stegemeyer (Germany).

For further information on the ILCS please contact:

Professor S. Chandrasekhar
Raman Research Institute
Bangalore 560080 INDIA

FAX: 91 812 340492; Tel: 91-812 340122; Telex: 845 2671 RRI IN
grams; RAMANINST, or any member of the Board of Directors.

1990

Conference Committee

Chair: Lam

Conference
Committee took
over the function of
PSC (which was to
select ILCC sites every
two years)

International Liquid Crystal Society
Conference Committee

Chairman: *Lui Lam*
Department of Physics, San Jose State University
San Jose, CA 95192, USA

Phone: (408)924-5261
Bitnet: luilam@calstate

Fax: (408)9244815
Telex: 171 171 UD

May 2, 1991

Prof., Dr. Sci. Viktor V. Titov
NIOPIK,
Ul. B. Sadovaya, 1/4.
103787 Moscow, GSP-3
USSR

Dear Viktor:

Thank you very much for your Christmas card which I received in Jan. 1991. I am very glad to learn that Dr. Yuri Molchanov of Leningrad State Univ. is ready to organize the 15th Int. Liquid Crystal Conf. in 1994. Sorry I was not able to write to you earlier, but I just finished running a conf. here and now have more time to attend to this matter.

Enclosed here is a copy of the letter that I send to Dr. Molchanov. Hope you will continue to help in organizing the conf. and keep in touch.

Best regards.

Sincerely,

Lui Lam

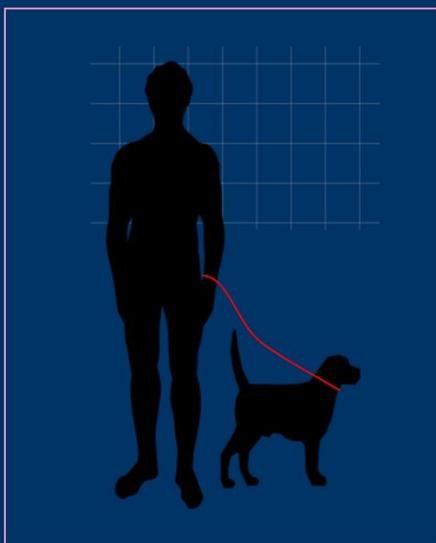
Lui Lam
Professor

Conclusion

- ILCS may be inevitable but its particular formation resulted from a combination of necessity and contingency, with its timing prompted by Mireille Delaye's leaving us.
- The ILCS is a French-inspired, Chinese-initiated, truly international mass organization.
- Kent people made important contributions in helping it happen.

ALL ABOUT SCIENCE

PHILOSOPHY, HISTORY, SOCIOLOGY & COMMUNICATION



MARIA BURGUETE AND LUI LAM
EDITORS

World Scientific (2014)

10

The Founding of the International Liquid Crystal Society

Lui Lam

The story of the founding of the International Liquid Crystal Society in 1990 is told here for the first time. The founding process lasted three years starting 1987 and is quite different from the usual case concerning other learned societies. A personal account of the why and how as well as the background and crucial events is given. It is written for those working in or interested in science, liquid crystals in particular, and for science historians.

President of ILCS

1990-1992 Chandrasekhar (India)

1992-1996 Luckhurst (UK)

1996-2000 Fukuda (Japan)

2000-2004 Goodby (UK)

2004-2008 Satyendra Kumar (USA, Kent)

Names absent in the 1988
Petition



Appendix

International Liquid Crystal Conferences

Conference	Year	Place	Number of Papers
1	1965	Kent, USA	42
2	1968	Kent, USA	78
3	1970	Berlin, Germany	115
4	1972	Kent, USA	181
5	1974	Stockholm, Sweden	260
6	1976	Kent, USA	271
7	1978	Bordeaux, France	296
8	1980	Kyoto, Japan	371
9	1982	Bangalore, India	354
10	1984	York, UK	430
11	1986	Berkeley, USA	539
12	1988	Freiburg, FRG	503
13	1990	Vancouver, Canada	715

1982

Bowlics invented by Lam

Bowlics: A Chinese Innovation



Lin Lei, Institute of Physics, Chinese Academy of Sciences, 1979.

1982	Bowlics proposed by LIN Lei (Lui LAM) at the Institute of Physics, Chinese Academy of Sciences, published in <i>Wuli</i> , ⁷ a publication of Chinese Physical Society.
1985	Bowlic monomers synthesized in Europe (one team in Paris, another is French-Germany-Israel team). ^{9,12}
1986	First review on bowlics given by Lam, as invited talk at the 11 th International Liquid Crystal Conference in Berkeley, USA. ⁸
1988	New type of bowlics synthesized in Tsinghua Univ., Beijing (published in J. Tsinghua Univ.).
1988	Lam proposed bowlic polymers . ⁵
1994	Bowlic monomers and polymers reviewed by Lam in a book. ⁶
1996	The Glenn Brown Award for best PhD thesis was awarded to Bing Xu (at Univ. of Penn at that time, then postdoc at Harvard U.), for his work on bowlics, presented at the 16 th Int. Liq. Cryst. Conf. in Kent, Ohio. (Xu is a student from China.)
1999	Bowlic polymers was synthesized in USA—prompted by the 1994 review article—by a PhD student from China. ¹¹
2012	Switchable (ferroelectric) bowlic columns achieved in the lab. (Previously in 1992, a patent has been filed by Harald Bock, Wolfgang Helfrich and Gerd Heppke. ²)

The word “bowlic” created by Lam is used by others in the title of their liquid crystal papers (such as Refs. 4 and 10) and is recognized officially¹ by the IUPAC and formally³ in *Handbook of Liquid Crystals*.

The story of bowlics represents an interesting story of innovation in China. Bowlics belong to the domain of new and strategic materials, and have potential application in ultrafast LCDs and other areas.

References

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