

NUMBER 6, 1988

We now come to the 6th issue of the newsletter, unfortunately a year late! Much has happened since the last issue. Most importantly, perhaps, we celebrated our 21st anniversary at the Bonnington Hotel with a special meeting and dinner. All the previous chairmen but one were able to attend, the exception being Mr Barrett who died a few years ago. It was a pleasant occasion full of nostalgia, but with the Chairman Prof Nowell expressing the hope that the continuity of the group would be maintained by the younger members. Other meetings we can look back on include the joint Nordic—English Symposium on Thermal Analysis and Calorimetry held in Bergen, and ESTAC 4 in Jena. For the future, on the international scene there is the 9th ICTA in Jerusalem later this year. On the home front we have the Thermal Methods School to be held at Kingston Polytechnic at Easter. A cause for regret is that the Fulmer Institute is no longer available as a venue which meant a last minute postponement of our annual general meeting to January of this year. Many of us will have memories of excellent meetings held there in the past. We also have a new winner of the TMG Award, Dr Gimzewski of the BP Research Centre.

COMMITTEE NEWS

The committee's main concern has been the planning of the scientific programme. Fortunately, the financial situation of the group is reasonably secure which allows meetings to be planned that have a wide appeal -or are of more specialised interest. Recent meetings have reflected this trend with the very well attended meeting at Loughborough on polymers and the meeting on solid state chemistry held in connection with the delayed AGM. Dr A.K. Galwey of Queen's University, Belfast was invited to give the plenary lecture at the latter meeting. This occasion was successful but with a smaller attendance. The committee has been concerned that fewer members of the TMG seem to be attending international meetings. It was very obvious in the joint Nordic-English meeting and again at the recent ESTAC. Low attendance does not do justice to our major contribution in the foundation of the European symposia which does not bode well for our future representation on international bodies. The committee has decided to extend an invitation to host the next ICTA, likely to be held in 1992, perhaps with the invitation remaining open for 1996. However, such dates well in the future present difficulties since they represent involvement for committees not yet in office.

Plans for the future include a one-day meeting on Food Science which will be associated with the AGM. Members will soon be receiving the first circular. The TMG School has been planned for Easter and members will have received details already. The format this time is slightly different, taking four days from 5-8th April. Once again the committee thanks manufacturers for their efforts on behalf of the School to allow 'hands-on' experience with a range of modern equipment. The committee has continued the custom of giving the Vice-Chairman responsibility for planning the meetings.

Mr Charsley attends committee meetings by invitation in his capacity as representative of the Group at ICTA. The committee has accepted Dr Laye's resignation as editor of the TMG Mews following publication of this issue. Dr Clark has agreed to become the new editor. Some concern has been expressed over the lack of meetings in South West England and Wales and the Vice—Chairman has agreed to look into the possibility of alternative venues. It was emphasised that easy access

PRESENT OFFICERS AND COMMITTEE MEMBERS 1988

- Chairman: Mr P.J. Haines
Department of Analytical and Biological Chemistry
Kingston Polytechnic, Penrhyn Road
Kingston upon Thames ,Surrey KT1 2EE
Tel . 01 549 1366
- Vice Chairman: Mrs J.A. Hider
- Hon Secretary: Dr C.J. Keattch
Industrial and Laboratory Services
PO Box 9, Lyme Regis, Dorset DT7 3BT
Tel. 02974 2472
- Hon Treasurer: Dr R.H. Still
Department of Polymer Science and Technology
University of Manchester Institute of Science and
Technology, PO Box 88, Manchester M6O 1QD
Tel. 061 236 3311
- Members: Miss J. Griffiths, Editor, Industrial Minerals
Dr C. Jones, Mettler
Dr J.T. Pearson, Huddersfield Polytechnic
Dr F.R. Sale, University of Manchester
Dr A. Smith, Boots
Dr R.S. Whitehouse, Evode
- Immediate
Past Chairman: Prof D.V. Nowell, Hatfield Polytechnic
- Co-opted: Dr G.M. Clark
Dr R.C. Mackenzie

by the majority of interested members was an important factor in the choice of venues.

ANNUAL GENERAL MEETING

The 1986 meeting was held in association with the anniversary celebrations and the 1987 - in 1988! - at Hatfield Polytechnic with the meeting on Solid State Chemistry. The annual report and financial statement have been circulated to members of the group. Changes in the committee include a new Chairman, Mr P.J. Haines, with Prof O.11. Nowell becoming the Immediate Past Chairman. Mrs J.A. Hider was elected the new Vice-Chairman and Miss J. Griffiths to the committee.

ANNUAL REPORT OF THE HONORARY SECRETARY, 1987

On November 13th and 14th, 1986, the Group held its 21st Anniversary Meeting at the Bonnington Hotel, London. The scientific sessions reviewed new developments and applications of thermal analysis whilst papers from industry, manufacturers and academics presented a fascinating picture of the various ways in which thermal methods will develop in the future.

The highlight of this meeting was the Anniversary Dinner at which the Guest Speaker, Professor Bark, presented suitable mementoes to all the extant Past-Chairmen, the past Honorary Treasurer and the current Officers, making suitable comments to each, in his own inimitable style. It was particularly pleasing to welcome Miss Hutchinson to the Dinner and we were honoured to welcome the President of the Division, Mr D.C.M. Squirrel.

Nearly 120 participants were welcomed to Loughborough University for a meeting on January 7th-9th, 1987, entitled "Applications of Thermal Methods to Polymers". The Group was fortunate to have Professor Edith Turi from the USA, as the Distinguished Speaker. All the papers were of a high standard and many evoked enthusiastic discussion.

The Fourth European Symposium on Thermal Analysis and Calorimetry (ESTAC 4) was held from August 25th—28th, 1987, in Jena. Although the Group (and indeed, the UK) were poorly represented, Dr E. Gimzewski presented his TNG Award paper to a highly appreciative audience of over 300.

The exceptionally high standard of this paper was commented upon by many participants and for the benefit of members, arrangements were made for Dr Gimzewski to present his award-winning paper at the Group's meeting on January 6th and 7th, 1988.

The traditional two—day meeting in November 1987 had to be postponed due to the closure of the Conference and Training Centre, Fulmer Grange. This has resulted in a rethink of the Group's programme format. It has been decided that the future programme policy will be a one-day meeting in November (to include the AGM) and a two-day meeting in early January.

Finally, the secretarial assistance and facilities provided by the staff at Burlington House are gratefully acknowledged.

C.J. Keattch

21ST ANNIVERSARY MEETING OF THE THERMAL METHODS GROUP

This was a two-day meeting held on the 13th and 14th November 1986 to celebrate the Group's coming-of-age. The venue of the Bonnington Hotel, London, was chosen because of its excellent facilities and the success of previous meetings held there. Associated with the meeting was an exhibition of photographs related particularly to the historical aspects of thermal analysis equipment. Our thanks go to Columbia Scientific, MSE, Netzsch, Perkin-Elmer, Setaram and Stanton Redcroft for supplying these pictorial reminiscences and it was interesting to learn that, in several instances, some of the equipment depicted was still in constant use some 30 years on[

Indeed the Thermal Methods Group has always had very close contact with manufacturers and we were extremely grateful to DuPont, MSE, Perkin— Elmer and Stanton Redcroft for their generous sponsorship of the meeting.

The scientific programme, entitled 'New Developments and Applications of Thermal Analysis' was intentionally very broad, so that as wide a cross-section of both academia and industry could be involved. This approach was quite successful as the meeting attracted over sixty delegates. Most of these were from the UK although this observer also spotted delegates from France, Germany, Switzerland and the USA and one intrepid explorer from Australia! The sessions were chaired by past (and the present) Chairman of the Group. The initial talk by the Secretary of the Group, Dr Keattch (who has held this position for the twenty-one years of the Group's

existence) was on the historical background to the formation of the Group in the then Battersea Polytechnic with anecdotes on the characteristics of the past Chairmen and Treasurers. As you can imagine the talk was very well received.

On the first evening there was a conference dinner, followed by an eloquent speech by Prof Bark in which he recalled the formation of the then Thermal Analysis Group 21 years ago. Suitable comments, both amusing and serious, were made about the ten past Chairmen. It was indeed fortunate that the nine surviving Chairmen were able to be present to receive mementoes of the occasion.

The past Chairmen are: Dr R.C. Mackenzie (1965—67), Dr J.P. Redfern (1967—69), Prof D. Dollimore (1969-71), Dr J.H. Sharp (1971-73), Mr K.E.J. Barrett (1973—75), Dr F.W. Wilburn (1975—77), Dr R.H. Still (1977-79), Mr E.L. Charsley (1979-81), Dr G.M. Clark (1981—83), Dr P.G. Laye (1983—85).

Presentations were also made to: the past Hon Treasurer, Dr A.A. Hodgson (1965-79), the current Officers of the Group, Dr D.V. Nowell (Chairman), Mr P.J. Haines (Vice—Chairman), Dr R.H. Still (Hon Treasurer) and Dr C.J. Keattch (Hon Secretary).

The Group was delighted that the President of the Analytical Division, Mr D.C.M. Squirrell, could be present at the dinner and award ceremony. Also present were Miss P.E. Hutchinson, Secretary of the Analytical Division, and Prof D.W. Wilson. Prof Wilson was Chairman of the Group Liaison and Policy Committee at the time of our formation and it was largely due to his efforts that we became part of the then Society for Analytical Chemistry now, of course, the Analytical Division, Royal Society of Chemistry.

M.J. Hardy

JOINT MEETING OF THE THERMAL METHODS GROUP & MACRO
GROUP (UK)
APPLICATIONS OF THERMAL METHODS TO POLYMERS,
UNIVERSITY OF LOUGHBDROUGH,
7TH-9TH JANUARY 1987

For a meeting organised shortly after the Christmas and New Year's festivities this conference was extremely well attended. Over 100 delegates from the USA, Europe and the UK attended the meeting, giving it a truly international flavour. The high attendance was a measure of the enthusiasm for the use of thermal techniques in the many and varied fields of polymers and polymer technology.

Prof Derek Nowell, the Chairman of the TMG, welcomed the Plenary Lecturer, Dr Edith Turi from the Polytechnic University, New York. Besides being the author of the definitive text 'Thermal Characterisation of Polymeric Materials', Dr Turi is well known for her research work in polymers. She has also been most active with the North American Thermal Analysis Society (NATAS) and has recently been appointed to chair the Education Committee of ICTA.

Dr Turi talked about 'Thermal Analysis in the Polymer Industry', stressing the importance of polymers and of thermal methods in their characterisation. She discussed particularly the evaluation of catalysts for the transamidation reactions of nylons, the study of fluoropolymers for electrical uses and the effect of heat-setting history on the properties of nylons. Dr Turi made it clear that a wide range of techniques must be used but that thermal methods make a vital contribution to polymer studies. The lecture was warmly applauded. The rest of the morning session was devoted to contributed papers, several of which dealt with polymer degradation and the analysis of evolved gases.

The afternoon session commenced with an invited lecture on 'Cure Kinetics of Thermosetting Systems' given by Dr John Barton of RAE, Farnborough. The lecture reviewed the theories of cure kinetics and the methods used to study curing reactions. The subsequent papers dealt with several aspects of cure kinetics including the hazards posed by very exothermic curing, the applications to composites and coatings. The last three papers were concerned with the application of thermal techniques to the study of photopolymerisation, and included recent developments of commercially available systems.

The evening was dedicated to the serious business of a sherry reception and the Symposium Dinner held in the Linwood Restaurant. The American guests were most intrigued by the Toast to the Queen! Further convivial celebration continued late into the night.

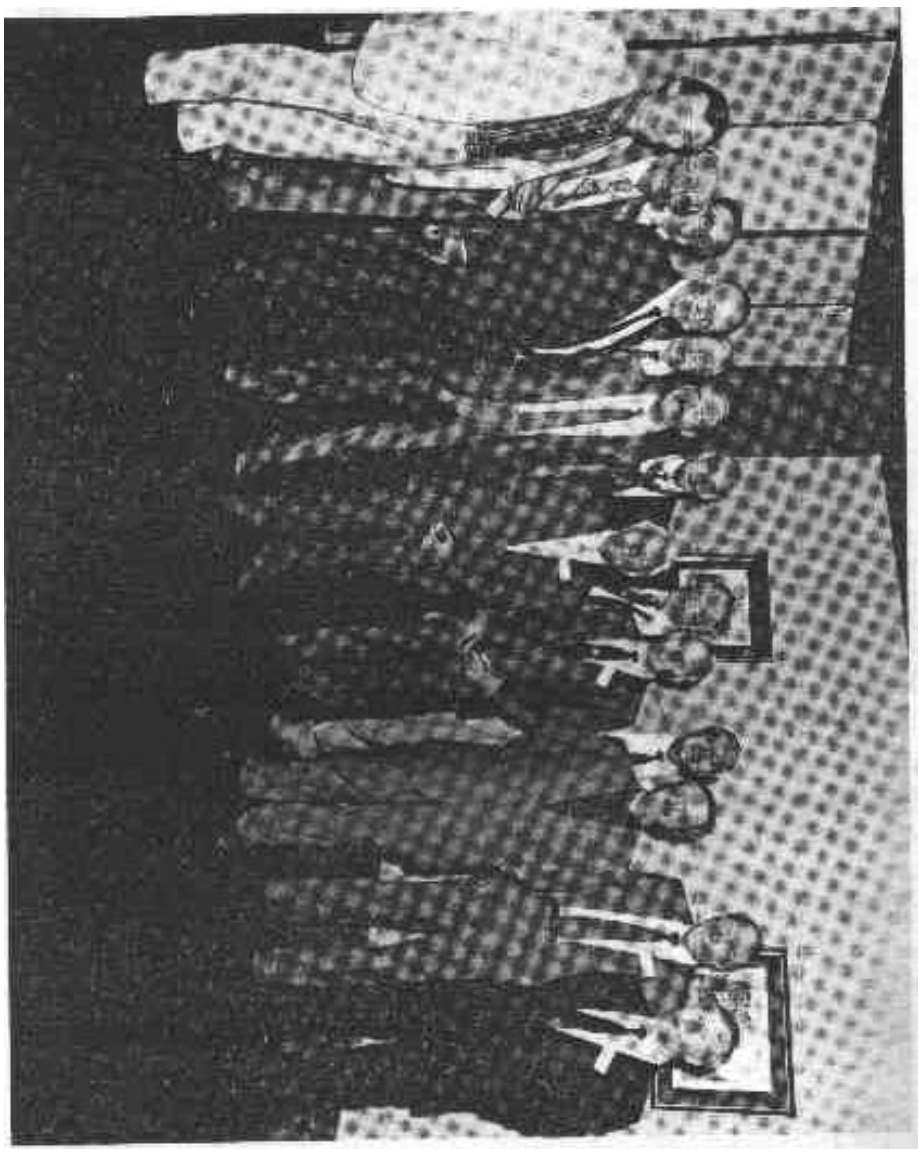
A surprising number of the delegates were, nevertheless, up early for the invited lecture from Prof Ray Wetton of Polymer Laboratories on 'DNTA and DETA for Characterisation of Polymers' . Prof Wetton showed the relationships between the two techniques and surveyed their wide range of applications in the polymer field. Several later contributed papers also stressed the need for thermomechanical and calorimetric studies on thermoplastics, composites and polyurethane—ureas.

The final session was concerned with the instrumentation of thermal methods applied to polymers. The last paper was given by Mr Steve Warrington of Stanton Redcroft, who discussed the use of simultaneous DTA/ mass spectrometry to examining a range of materials including wool after various processing conditions. Steve's description of how to obtain uncontaminated wool by 'rustling' maintained the delegates interest after a long day. It did, however, underline the importance of sample preparation in obtaining accurate results.

Caption for photograph taken at the Anniversary Dinner

Chairmen of the TMG, Officers and Distinguished Guests – ;eft to right::

Dr G.M. Clark (Chairman 1981-83), Dr A.A. Hodgson (Hon Treasurer, 1965-79) Dr C.J.. Keatch (Hon Secretary 1965-), Prof D. Dollimore (Chairman 1969- 71), Dr R.C. Mackenzie (Chairman, 1965-67), Dr. J.H. Sharp (Chairman, 1971--73), Mr D.C.M. Squirrell (President, Analytical Division), Dr. F.W. Wilburn (Chairman 1975-77), Prof. L.S. Bark (PasL-President, Analytical Division), Dr.D.V. NoweLL (Current Chairman), Dr. J.P. Redfern (Chairman 1967—69), Dr. R.H.Still (Chairman 1977—79, Hon Treasurer 1979-),Dr. P.G. Laye (Chairman, 1983-85), Mr E.L. Charsley (Chairman 1979-8 1).



Throughout the conference instrument manufacturers held an exhibition adjacent to the lecture theatre. All the delegates made full use of the coffee and lunch breaks to study the working displays and consult with the exhibitors. It was interesting to compare the various types of equipment under identical working conditions.

Polymer Laboratories were extremely generous in arranging a number of visits to their demonstration laboratories which were adjacent to the University. Here the range of techniques was demonstrated by their enthusiastic staff who were prepared to discuss individual applications in detail.

The meeting closed with thanks to the University and the contributors and the hope that there might be regular meetings of like minds concerned with thermal analysis of polymers in the future.

R.S. Whitehouse

NEWS FROM ESTAC 4

The Fourth European Symposium on Thermal Analysis and Calorimetry was held at the Friedrich Shiller University, in the very picturesque city of Jena, German Democratic Republic, from August 23rd to 28th, 1987. The meeting was organised by the Department of Chemistry in conjunction with the Groups of Thermal Analysis and Calorimetry of the Chemical Society of the GDR. The conference was attended by over 400 scientists representing some 22 countries.

A feature of all the ESTAC conferences has been the ability of the organisers to create a friendly and relaxed atmosphere, in which scientific exchanges and contacts could flourish. Prof Dr A. Feltz (General Chairman), Dr W. Ludwig (Organising Chairman) and their team of co-workers, are to be congratulated on maintaining the tradition, in this the largest ESTAC to date.

The scientific programme (Chairman Dr K. Heide), was divided into plenary lectures and poster sessions. Over 280 scientific communications were presented in the form of posters. A particular feature of the poster sessions was the very lively discussions which often continued

well after the scheduled closing time. The proceedings will be presented in a special edition of the Journal of Thermal Analysis, to be edited by Dr D. Schultze..

In addition to the 19 plenary lectures, two award lectures were also presented. The Netzsch-GEFTA Award lecture, entitled “Why do Ternary Compounds Exist? - Thermoanalytical Investigations on Binary Systems of Metal Chlorides”, was given by Prof Dr H.J. Seifert of the University of Kassel, FRG. The Thermal Methods Group Young Scientist Award lecture, “Thermal Analysis in Reactive Atmospheres Its Practice and Application in High-Temperature Technology”, was given by Dr E. Gimzewski of the British Petroleum Research Centre. While, in a special evening lecture, Dr H. Wiedemann gave a visually superb presentation of the use of thermal methods to investigate ancient artefacts.



Dr Edmund Gimzewski of the BP Research Centre (right), receiving the 4th Thermal Methods Group Award from Mr Charsley, past Chairman of the TMG, at ESTAC 4.

The scientific programme was accompanied by a comprehensive exhibition featuring the latest equipment from the major thermal analysis manufacturers.

In spite of all this scientific activity there was time to fit in an afternoon excursion to either Weimar or Grosskochberg, while evening entertainments included an excellent concert of chamber music and a multi-projector slide and stereo extravaganza at the Conference dinner. The disco at the end seemed to give a new lease of life to a number of delegates who had been claiming exhaustion from their efforts at the poster session.

The meeting was concluded by review and discussions of selected scientific topics from the Conference. The inclusion of kinetic studies as the last topic ensured that the meeting ended on a very lively note indeed.

In closing the Conference Dr Marti, the ESTAC Committee Chairman, expressed his warmest thanks to the organisers for such a memorable meeting. He was also delighted to announce that the venue for the next Conference had been chosen and that ESTAC 5 would be held in 1991 in France (see preliminary notice).

E.L. Charsley

ESTAC COMMITTEE NEWS

A meeting of the ESTAC Committee was held during the ESTAC 4 Conference in Jena in August. The meeting was attended by representatives of all the European Societies and the ICTA President and Vice President were also invited to attend.

The main item on the agenda was the choice of venue for ESTAC 5, to be held in 1991. Following a presentation by Dr J. Rouquerol, the Committee was delighted to accept the offer of the Association Francaise de Calorimetrie et d'Analyse Thermique to hold the meeting at a venue near Nice in the South of France, from the 26th to 30th August.

Discussions were held on the ways of ensuring that there should be no clash of dates between ESTAC and ICTA meetings. The ESTAC Committee again expressed itself willing to collaborate in this effort. The UK Thermal Methods Group indicated that it would be proposing at the next ICTA Council meeting that the interval between ICTA Congresses be increased to 4 years. It was agreed that if ICTA were to change to a 4 year period, the ESTAC Committee would be prepared to hold ESTAC 6 in 1994 to enable a two-year interval between ESTAC and ICTA meetings to be established. The meeting schedule would then be: ICTA 1988, ESTAC 1990, ICTA 1992, ESTAC 1994.

Prof Bordas Alceinas informed the meeting that a Spanish Thermal Methods Group, affiliated to the Royal Spanish Chemical Society, was about to be formally constituted. The Committee expressed great pleasure at the formation of this new group and welcomed Prof Bordas Alceinas as their ESTAC representative.

In accordance with ESTAC practice, Dr E. Marti announced that he would be handing over the Chairmanship to Dr W. Ludwig at the end of the Conference and presented him with the "Aberdeen stones" to carry to ESTAC 5.

The meeting concluded with a discussion on the scientific role of ESTAC. It was agreed that a working party, consisting of Dr Ludwig, Dr Marti, Dr Rouquerol and Mr Charsley, would be established to evaluate how ESTAC can best serve the scientific development of thermal analysis and calorimetry.

The current members of the ESTAC Committee are:
Chairman - Dr W. Ludwig (German Democratic Republic),
Immediate Past Chairman - Dr E. Marti (Switzerland),
Conference Chairman — Dr J. Rouquerol (France),
Dr V. Balek (Czechoslovakia), Dr W.D. Enmerich (German Federal Republic),
Dr J. Paulik (Hungary), Prof G. Della Gatta (Italy),
Dr G. Hakvoort (Netherlands), Prof A. Langier—Kuzniarowa (Poland),
Dr O. Toft Sorensen (Scandinavia), Prof S. Bordas Alceinas,
Mr E. Charsley (United Kingdom), Prof V. Lazarev (USSR).

ESTAC 5

This will take place in France from 26th to 30th August 1991.

The meeting will be organised by the Association Francaise de Calorimetrie et d'Analyse Thermique under the co—chairmanship of Prof L. Elegant and Dr J. Rouquerol.

The Symposium will be held in the Technological and Scientific Community Park of Sophia-Antipolis which is approximately 15 km from Nice. Use of the Lycee International in the Park will enable a very reasonably priced accommodation package, including all meals, to be offered. Accommodation will also be available in a number of hotels situated in the Park.

Further information will be available from:

Dr J. Rouquerol, Deputy-Director, Microcalorimetrie Center,
26 Rue du 141⁰ RIA, 13003, Marseille, France.

STANTON REDCROFT - ITAS AWARD

The Stanton Redcroft—Indian Thermal Analysis Society (ITAS) Award was instituted to be awarded to an Indian scientist under the age of 35 whom the award conwnittee judged to have made the best contribution to thermal analysis. At the 5th National Symposium on Thermal Analysis held at Kharapur from December 20th to 22nd. Dr John Redfern presented the first recipient of the award to Dr Goutam De. Dr De has worked at the Indian Association for the Cultivation of Science at Jardavpur, Calcutta, as a post—doctoral fellow under the guidance of Dr Ray Chaudhuri, Reader in Inorganic Chemistry. With Dr Chaudhuri he has published some twelve papers on the thermal investigation of diamine complexes which has contributed to a better understanding of the conformational analysis of these compounds. The award consists of a medal, a certificate and payment of 2001 Rupees to Dr De.

FUTURE MEETINGS

Analysis of Building Materials — 21st March 1988 at Hatfield Polytechnic.

This is a joint meeting with the East Anglia Region. Further information from Mr B.W. Woodget, Division of Chemistry, Hatfield Polytechnic, PC Box 109, Hatfield, Herts AL10 9AB.

9th Thermal Analysis School - 5th—8th April 1988 at Kingston Polytechnic.

Members will have received a circular advertising the school. Further information may be obtained from Mr P.J. Haines, Department of Analytical and Biological Chemistry, Kingston Polytechnic, Penrhyn Road, Kingston upon Thames, Surrey KT1 2EE.

The Role of Thermal Methods in Food Science — 10th November 1988 at the Scientific Societies Lecture Theatre, Savile Row, London.

Details of the meeting will be circulated shortly.

9th International Congress on Thermal Analysis - 21st-25th August 1988 in Jerusalem, Israel.

Members will have received information about this meeting which covers all aspects of thermal analysis and calorimetry. The final programme will be available in June. Further information may be obtained from The Secretariat — ICTA 9, P0 Box 394, 61003 Tel Aviv, Israel.