Journal of Thermal Analysis and Calorimetry, Vol. 75 (2004) 999–1011

Report

REPORT ON THE INTERNATIONAL EDITORIAL BOARD MEETING HELD IN BUDAPEST OCTOBER 20, 2003

AGENDA

Opening – Prof. J. Simon Editor-in-Chief
Presenting the Celebration Issue of Journalof Thermal Analysis and Calorimetry to Prof. Yariv

Chairman: Prof. L. Niinistö

- *A Look into the Future of ICTAC* – Prof. J. Rouquerol (President of ICTAC)

Report on the upcoming International Conferences

- *13th International Congress on Thermal Analysis and Calorimetry, 2004 – Chia Laguna Sardinia, Italy* – Prof. A. Schiraldi (President)
- *9th European Symposium on Thermal Analysis and Calorimetry, 2006 – Cracow, Poland* – Prof. A. Małecki (President)

Chairman: Prof. M. Caira

The Present Position and the Future of JTAC according to the International Participating Representatives

- Prof. F. Giordano (Italy)
- Prof. A. Langier-Kuźniarowa (Poland)
- Prof. J. Menczel (USA)
- Prof. L. Niinistö (Finland)
- Prof. B. Pacewska (Poland)
- Prof. M. Pyda (USA)
- Prof. J. Šesták (Czech)
- Prof. P. Šimon (Slovakia)

Chairman: Prof. J. Rouquerol

Future Trends from the Publisher's view

- Dr. Emma Roberts Senior Publishing Editor, (Kluwer Academic Publisher)
- Dr. Bucsi Szabó Zsolt Director, (Akadémiai Kiadó)
- Prof. Cs. Novák Editor, (JTAC) Editor's Report about the Latest Developments of JTAC

1388–6150/2004/ $ 20.00

Akadémiai Kiadó, Budapest
Kluwer Academic Publishers, Dordrecht

- Prof. G. Liptay, Consulting Editor 'Who is Who in Thermal Analysis and Calorimetry' Short report on the booklet in preparation

Chairman: Prof. A. Małecki

Thoughts for the Future Advancements from the Instrument Manufacturing Companies

- Mettler–Toledo – Dr. R. Riesen
- Setaram – Dr. R. Naumann
- TA Instruments Inc. – Mr. M. Uptmore

Panel Discussion

Moderators: Prof. J. Kristóf and Prof. S. Yariv

The topics of the session were the followings:

- exploring the new trends within thermal analysis and calorimetry and experimental thermodynamics
- discussing the present situation including the effects of the 'generation change' in this field.

13TH INTERNATIONAL CONFERENCE ON THERMAL ANALYSIS AND CALORIMETRY (ICTAC-13) CHIA LAGUNA, SARDINIA, ITALY, SEPTEMBER 12–19, 2004

Prof. A. Schiraldi – President of ICTAC-13

The 13th ICTAC Congress is being organized by the Associazione Italiana di Calorimetria e Analisi Termica (AICAT). The Conference Chairman is Prof. Alberto Schiraldi, University of Milan, while the Chairman of the Local Organizing Committee is Prof. Bruno Marongiu, University of Cagliari.

After some pre-congress meetings reserved to the ICTAC Executive Council and ICTAC Scientific Committee, that will be convened on Saturday and Sunday morning, the reception and registration of participants will start on Sunday September 12th at 15:30h followed by a welcome get-together event at 19:00h.

The opening ceremony will take place on Monday 13th at 8:30h.

The scientific programme will include plenary lectures, oral and poster communications about theory, methods and applications of Thermal Analysis and Calorimetry. It will be articulated in separate parallel sessions (up to three per day) that will cover the following main areas:

- Thermodynamics and Thermochemistry
- Kinetics
- Inorganic Chemistry, Metallurgy, Ceramics, Earth Science
- Organic Chemistry, Pharmaceutical
- Life Sciences Food, Biological and Medical applications
- Sample Controlled Thermal Analysis
- Thermal Reactivity of Solids
- Instrumentation and methods
- Process Technologies

Plenary sessions will be devoted to

- Three plenary lectures
- Mackenzie Memorial Lecture

- Lectures by the recipients of the awards by TA Instruments, SETARAM, Perkin Elmer (young scientist) and by AICAT (Premio Lucci for an Italian young scientist).

Four workshops devoted to specific hot issues have been announced:

1) Geoscience (details will be communicated soon) chaired by Prof. Anna Langier-Kuźniarowa
2) 'The Theory and Practice of Thermoanalytical Kinetics of Solid-state Reactions' chaired by Prof. H. Tanaka
3) 'Lifetime Prediction of Materials' chaired by Profs C. Popescu and A. Kettrup
4) 'Combined Techniques in Foods' chaired by Prof. Perla Relkin

A 'Business Session' about the ICTAC organizational issues will be held on Tuesday 14.
The planned social events are:

- Wednesday afternoon: visit of south western coast of Sardinia
- Thursday night: social dinner at "Casa Ruda", an old style farm-house in the country landscape of Sardinia

Every day a three hour break has been planned at lunch time to allow everybody enjoy the natural beauties of the place, like the 2 km long wild sandy beach.

Accommodation facilities and deadline dates are reported in the first circular included in the congress web site: www.ictac13.com. Only on-line registration is planned.

On the 10th November 2003 more than 100 communications had been already announced by colleagues from 25 countries.

The ICTAC Congress is a major event for everybody engaged in the use of Thermal Analyses and Calorimetry. Participation is a very important tool to strengthen our worldwide family and secure advancements in our field.

ESTAC 9 – WILL BE HELD IN CRACOW, POLAND ON 27–31 AUGUST 2006

Prof. A. Małecki – Chairman of ESTAC 9
Member of the Editorial Advisory Board

The next European Symposium on Thermal Analysis and Calorimetry will be held in Cracow, the old and famous Polish town. The main organizers, the Polish Society of Calorimetry and Thermal Analysis (PTKAT), AGH University of Science and Technology (AGH UST) together with Jagiellonian University, which is one of the oldest universities in the world, have the intention to continue tradition of the previous symposia. For the five-days long conference, starting on Sunday 27th August 2006, we planned plenary lectures, key lectures in 2–3 different sections and 2 separate poster sessions. The new Auditorium Maximum of Jagiellonian University (presently under construction) will be the main Conference venue together with the lecture halls at AGH UST.

The scope of scientific program will be very comprehensive as the meetings will include: theory and instrumentation for thermal analysis and calorimetry, thermodynamics, inorganic and organic chemistry, polymer science, biochemistry, pharmaceuticals, biological and medical sciences, metallurgy, ceramics and earth sciences, catalysis and applied sciences. Manufacturers will be invited to exhibit and demonstrate their instruments for TA&C. Exhibition of scientific books and journals will be organized as well. The proceedings of the conference will be published in a special issue of Journal of Thermal Analysis and Calorimetry. Only selected manuscripts presented at the conference desk will be considered for publication after review.

The organizers will offer hotel accommodation (three or four stars) as well as dormitories as a low-cost accommodation. All accommodation will be in the close vicinity of the conference venue and the historical center of Cracow. As usual the social program proposals will include the welcome party,

a concert, visiting interesting places in Cracow and a conference dinner. During the conference a range of tour option will be offered, ranging from a self-arranged trip to the guided excursions. The members of Organizing Committee will help participants to arrange their pre- and post conference tours.

PRESENT AND FUTURE TRENDS OF THERMAL ANALYSIS ON PHARMACEUTICALS

Prof. F. Giordano
Member of the Editorial Advisory Board

Thermal analysis is commonly employed in pharmaceutical industry mainly for quality control of raw materials, both drugs and excipients. The well-known advantages of using this instrumental method of analysis rely basically on speed, reproducibility, and minimal amount of sample, particularly valuable in the preformulation stage when only grams of a new compound are in many cases available. The information can be both qualitative and quantitative; fusion/crystallization temperature and enthalpy, solid/solid transition temperature are practically the only recorded parameters. Some intrinsic features of thermal analysis limit the unconditioned use of thermal analysis for purity determinations. The need for the simultaneous identification and quantitation of all impurities in a pharmaceutical compound is strongly in favour of chromatographic methods.

There is an increasing interest in the application of thermal methods in the early stages of new chemical entities development concerning the compatibility with other components, drug or excipient, which may be present in the same drug product. To this aim, thermal analysis allows a fast survey of possible interactions. Generally, binary systems are tested and temperature *vs*. composition phase diagrams can be drawn with reasonable ease. In any case it is worth to underline that in most cases only a small percentage of the potentialities is used, with particular regard to software facilities of modern instrumentation. Production and quality control needs are often limited to the determination of a single parameter. The flexibility offered by the variety of possible experimental combinations (open/closed-/pierced crucible, inert/oxidative atmosphere, scanning rate, and so on) is rarely exploited to its full extension. Moreover, it is generally accepted to perform compatibility tests only on 1:1 (by weight) binary systems. It seems worth to underline that, when drug formulations are considered, quite rarely a 1:1 (drug:drug, drug:excipient, or excipient:excipient) combination is present. It can be highly informative to explore also the thermal behavior of complementary binary mixtures, e.g. with high/low drug contents.

An important trend in thermal analysis is also represented by coupling with other techniques (Mass Spectrometry, FT-IR, Evolved Gas Analysis, PXRD) in order to gain further information relevant to temperature related effects (e.g., endo-exo events recorded by microcalorimeters, mass variations in thermogravimetry, color changes in Hot stage Microscopy). These coupled techniques are particularly valuable for pharmaceutical systems when accelerated stability and compatibility tests are performed. Decomposition patterns and solid-solid transitions (crystalline to crystalline, crystalline to amorphous and viceversa) can be monitored allowing a comprehensive picture of the solid state properties of a given compound or a combination. New entries such as MDSC (Modulated Differential Scanning Calorimetry) will soon hopefully leave the research laboratory and play an important role in the routine assessment of the thermal properties of drugs for the pharmaceutical technologist, also considering the increasing use of polymers and biotechnology products.

A LOOK INTO THE FUTURE OF TA IN GEOSCIENCES

Prof. Anna Langier-Kuźniarowa

A very characteristic aspect of thermal analysis applications is their dispersion in various branches of Geosciences both for scientific and practical purposes. These purposes are extremely differentiated and include: identification of mineral species, detailed definition of mineral structures, kinds of linking in organo-clays, stability of various chemical compounds containing minerals (e.g. fertilizers, herbicides, pesticides), determination of maturity of the organic matter dispersed in rocks as the precursor of gas and oil accumulations and very many others.

The application of TA in Geosciences reached its top in the 60–70s which was soon followed by a remarkable decrease of interest from the thermoanalysts. The reason for this situation was undoubtedly the lack of repeatability connected with difficulties in intralaboratory comparison. To a certain extent such a situation still exists. Therefore, the most important target for the nearest future is the establishing of experimental conditions having an essential influence on the TA results. The choice of appropriate experimental conditions should be based on the knowledge of the material to be investigated, especially with regard to the gaseous products released during heating to ensure free gas removal. This requirement subsequently implicates a proper arrangement of the sample in the furnace (e.g. crucible, multiplate or labyrinth holder – F. Paulik, 1955), its proper mass and thickness in the holder. These requirements should be determined independently for the different kinds of material to be investigated because they vary, for example, for carbonate minerals, clays, organic matter dispersed in rocks and so on.

Another aspect concerning the experimental conditions is the kind and dynamics of the atmosphere. It is one of the most important factors to be taken into account for the deep interpretation of the structure of the material to be investigated e.g. the mode of linking of the components in organo-clay complexes. Such lines of TA application in Geosciences may be of crucial significance not only in basic science but, to the same extent, in industrial and other practical fields.

Another branch in which TA applications should play an important role is experimental mineralogy. A good example is concrete mineralogy permitting a deeper recognition and improvement of industrial cement technology.

However, the most important branch of TA application should be a detailed recognition of organic matter dispersed in rocks, crude oil, coals of different state of coalification both for basis research and prospecting for gas and oil and other industrial purposes. But again the fundamental requirement here is the correct choice of experimental conditions. These requirements apply to all other kinds of organic material including organo-clay complexes. TA application for these materials may be expected in almost all Geosciences branches discussed above both for scientific and practical purposes and also in agriculture, civil engineering, pharmacy and many others.

But particular significance should be attached to TA applications in basic science for very detailed studies of structures of minerals and other materials being the subject of interest in Geosciences. Needless to say, these studies should be combined with many other methods such as X-ray, electron microscope, FTIR, IR and other sophisticated procedures.

The above trends in TA application in Geosciences are by no means the only ones. They only indicate the most important needs to be met in the nearest future and should serve as guide-lines for tasks to be planned and carried out in the ICTAC Geosciences Committee.

Present Position and Future of Journal of Thermal Analysis and Calorimetry (JTAC)

Prof. L. Niinistö
Member of the Editorial Advisory Board

JTAC is a well-established journal in its field of research, *viz*. thermal analysis and calorimetry. However, it is worthwhile to critically evaluate what JTAC's present position is among its competitors and see in which direction the present position is likely to move in the near future.

Such an evaluation can be conveniently carried out by a SWOT-analysis. This method of analysis is nowadays a popular (and simple) way to find out the Strengths, Weaknesses, Opportunities and Threats. When considering the various factors one ends up with the following analysis:

SWOT Analysis of JTAC

Strengths	**Weaknesses**
• Well-established position in TA	• Low impact factor
• International authors, subscribers, editorial board and referees	• Relatively low rejection rate
• Wide coverage of TA	• Long publication times (received → published)
• Good technical level of editing/printing	• Rather old-fashioned appearance (format and lay-out)
• Support from qualified publishing houses (Akadémiai Kiadó and Kluwer)	• Low frequency of issues (12/year)
	• Many special issues causing delays in publication times
Opportunities	**Threats**
• Increasing general and applicational interest for materials science/materials testing	• Competing journals in TA and materials science
• Continuous development of TA instruments resulting in new opportunities and new users of thermal analysis	• Decreasing funds at libraries/universities leading to lower number of subscriptions (valid for all journals though)
• Opportunities in electronic publishing	• Technical development in the publishing business (electronic publishing/investments)

Impact Factor

There is also a numerical way to assess the quality and impact of a journal, namely the Impact Factor (IF) introduced and maintained by the Institute of Scientific Information (ISI). While the impact factors of the leading journals in the field of materials chemistry, *viz. Journal of Materials Chemistry* (JMC) and *Chemistry of Materials* (CM), are around 3.0 (in 2002: JMC 2.683, CM 3.967) the IF of

JTAC and *Thermochimica Acta* (TA) are disappointingly low. Likewise the values of Immediacy Index of the thermoanalytical journals are low.

Based on the facts mentioned before the impact factor of JTAC reached its (all-time) minimum in 2000 but has since then slowly recovered to 0.598. This is still somewhat lower than the IF of TA not to mention the high IFs of the materials chemistry journals JMC and CM.

Steps to be taken

There is currently an increasing interest in materials chemistry as seen in the success of the relatively new journals JMC and CM. JTAC should also continue and strengthen the current emphasis on materials chemistry but besides the conventional papers JTAC should actively try to get manuscripts on new and exciting materials like the new superconductors, high-*k* materials and alike.

In order to make the journal more attractive for authors, libraries and funding agencies, its impact factor should be increased by introducing the following steps.

- speeding up the editing/printing
- increasing the frequency of issues to 18/24 per year
- introducing higher rejection rates and improved scientific level by a more stringent refereeing/editing
- introducing topical review(s) in every issue
- continuation and strengthening of the current emphasis on materials chemistry and obtaining papers on new (exciting) materials, too
- modernising the format: A4 instead of A5/B5

CHOSEN TRENDS OF THERMAL ANALYSIS IN POLAND

Prof. Barbara Pacewska
Regional Editor for Poland

Main research areas using Thermal Analysis are developed in Poland i.e. polymeric materials, pharmaceuticals, complexes, inorganic chemistry, cement and ceramic materials, adsorbents, kinetic and reactivity of solids , thermodynamics and structures of liquids were shown on the basis of information from main Polish research centres, likewise scientific literature and own experience.

The further part of the lecture presented the summary of my several years' work of the author in Journal of Thermal Analysis and Calorimetry as a Regional Editor for Poland. A particular attention was drawn to the subject matter of submitted papers and their scientific level was discussed. The percentage stake in the papers evaluated by two independent reviewers who recommended whether a particular manuscript should be published without changes, with minor or major changes, or should not be published at all was shown.

A special issue of JTAC including selected papers presented at 8th Polish Seminar to the memory of Prof. St. Bretsznajder which took place in Płock in September 2002 with foreign participants was discussed in brief. A strong emphasis was laid both on the subject area of the papers and their scientific level. Each manuscript from the issue was also evaluated by two independent reviewers from the whole world e.g. Israel, Turkey, Russia, Yugoslavia, Hungary, Spain, Brazil etc. The percentage stake in the papers which were recommended whether they should be published without changes, with minor or major changes, or should not be published at all was shown, too.

The lecture presented also remarks and thoughts concerning IF which in Poland, similarly to other countries, is of a great importance mainly due the fact that in quality assessments, research groups are judged on number of publications and value of the journals in which the papers are published, e.g. some universities divide their budget taking into consideration the IF of the journals in which publications appeared.

At the end of the lecture, principle ways of increasing IF were mentioned. Main of them were: providing the high scientific level of papers, decreasing the time interval between submission and publication of papers, completing manuscripts with the citations of the relevant literature published in JTAC during two last years.

TRENDS AND BOUNDARY ASPECTS OF THE NON-TRADITIONALLY APPLIED SCIENCE OF HEAT

Prof. J. Šesták
Member of the Editorial Advisory Board

The quality of heat at different temperatures was necessary to distinguish by determining a new state quantity called entropy. Since that, it has accoutered various connotations, corresponding to the system's make up and showing incidentalness of the internal evolution of the arrangement of system constituents and possible interrelation between entropy and information. It has also become feasible that the synchronized staying power of heat (Q) and temperature (T) may sustain certain limiting 'critical' value, such as the product of (T Q), which thus may obey a certain characteristic constant. It can encompass such a meaning that we cannot determine the temperature precisely enough for large heat flows and vice versa. An important role has been held by thermodynamics, which, in common words, says that any spontaneous process must be only such that any resulting state is more easily accessible than the state of any previous (competing) process (such as the temperature equilibrating). We can see that thermodynamics can also provide an idea of a global (non-material) driving force showing that the process always follows the circumfluent contour lines of the straightforward access to all intermediate states on its reaction path. The mankind experience was always associated with two apprehensible forces.

One aiming down to the rest and now associated with gravity, recently characterized by the universal gravitational constant, g, as a natural part of the basic unit called the Planck length (of the magnitude of $10^{-34}=\sqrt{(gh/c^3}$, where h and c are respectively the Planck constant and the speed of light in vacuum}. The other force is tending upwards to swell and is symbolized by fire, which is currently represented by the thermal kinetic energy of particles, kT, where k is the *Boltzmann* constant, which is a natural part of another basic unit called the thermal length, $h/\sqrt{(mkT)}$. The field of thermal analysis can eventually be extended in two yet unfamiliar limits. Working in the outer space, we can get rid of the effect of gravitation (thus enhancing gravity undisturbed heat and mass fluxes helping to the justification of a new discipline that we coined as kinetic phase diagrams). When dealing with low enough temperatures (T<4K), we can eliminate the thermal effect of kT and enter the curious world of quantum mechanics. It is clear that important roles in early thermal physics were played by statistics as shown by the Boltzmann relation between the ratio of heat over temperature (entropy). These, as well as the probability of the arrangement of atoms, were used by Planck to show that the Wien radiation law for low frequencies and the Rayleigh-Jeans radiation law for high frequencies could be explained by individual atoms that emit discrete frequencies. Planck's work allowed him to derive his radiation law on the basis of the thermodynamic equilibrium between emitted photons and the absolutely black surroundings encountered on the condition of maximum entropy and thus providing a bridge between the micro- and macro- world of very small and very large collections. Recently these principles have been used to analyze the background structure of the entire universe, i.e., the arguable vacuum (previously known as the 'ether'), which is now understood to be bursting with unidirectional zero-point radiation (seen as the ocean resource of energy, which is borrowed on account of the creation of asymmetry and returned back on the energy re-execution). Accordingly, the most important area of interest became the study of properties of

various interfaces, which are understood as a continuity defect or disorder emergence created at the boundary between two entities regardless if it is physics (body surface, phase interfaces), fields of learning (thoughts, science and humanities) or people behavior (minds, physical and cultural frontier). It entirely affects the extent of our awareness beyond which starts our confusion or misapprehension, or for the want of a better word, chaos. It brings in play another correlation that is the interface between the traditional language of visible forms of the familiar Euclidean geometry and the new language used to describe complex forms often met in nature and called fractals. The allied and most general model functions are the power law (leading to the limiting logarithmic function). They provide not only a spontaneous linkage between the mathematics of fractal geometry of nature and that of human's inherent sensation of external stimuli, but also penetrates almost all correlation (information dimension, fractal properties, kinetics). The key for this attitude is the recognition that many random structures obey self-affinity symmetry, which is as striking as that obeyed by regularly symmetrical patterns taught in the classical Euclidean pedagogy. Conformably, some novel, yet unfamiliar ideas appeared, such as a more general impact of the Planck constant in self-organization of some macroscopic events (Belousov-Zhabotinsky reactions) supportive that the basic ideas about the mathematical rules are more spaciously self-installed by nature.

HOW TO INCREASE THE IMPACT FACTOR

Prof. P. Šimon
Regional Editor for Eastern Europe

Scientific Journal's Impact Factor (IF) is the technical indicator most widely used for evaluating scientific journals by measuring the frequency with which the 'average article' in a journal are cited over a given year.

It is calculated by dividing the number of all citations of articles published in a given journal during the current year by the articles published in the journal during the previous two years.

At the beginning IF was a mere statistical data to evaluate and compare publications. The use of IF however, has gone far beyond that aim. It not only became a major tool for market researchers for publishers and advertisers, but more offten used byscience managers and decision-makers as an indicator of scientific value. By aming to increase our Journal's IF we must always keep those in mind. However the IF is one significant and most used measure for rating publications, so we have to try to keep its importance in mind as Regional Editors.

There are two ways to increase IF: either increase the numerator or to decrease the denominator.
Possibilities to increase the numerator:

- the natural way – increase the quality of papers by a more stringent refereeing process, by accepting the papers with higher 'added value' – carrying new ideas
- the direct way – to encourage the authors to cite the papers published in JTAC in the last two years
- to invite selected authors to publish a review article – the review articles are usually cited extensively

To my opinion, it is necessary to employ all three approaches listed above.
Possibilities to reduce the denominator:

- a more stringent refereeing process, where the peer review system is not only screening for quality, but at the same time acts as a vitalising forum adding quality to the reports
- to delay the 'partial' papers – those manuscript where it is written that some topic of the paper will be studied later – and wait with the publishing till the research is completed

ANNOUNCEMENT OF KLUWER ACADEMIC PUBLISHER

Dr. Emma Roberts, Senior Publishing Editor

Kluwer Academic Publishers is pleased to announce the completion of the acquisition of Bertelsmann-Springer, including the scientific publishing business Springer-Verlag. In early 2004, the merger of these two leading publishers, eventually to be renamed Springer, will begin, ultimately resulting in the second largest scientific publisher in the world. Because of the size and scope of this merger, it is expected to take some time. As we move forward with this process, our top priority will continue to be ensuring that our authorship and publishing programs are taken care of and that the end result is a positive one for both Kluwer and BertelsmannSpringer authors and customers. At this stage, it is important to provide you with some information to avoid any confusion over the coming months regarding your project or ongoing relationship with Kluwer.

We strongly believe that the integration of these two companies will provide a variety of benefits and opportunities for our authors and customers. The combination of Kluwer and BertelsmannSpringer will allow us to accelerate the progress we are making in migrating our business from a traditional print publisher of books and journals to a sophisticated provider of online information and services. More and more we see that the end users of the content we sell to the marketplace are demanding access to scholarly information faster and more comprehensively than in the past. The merger between Kluwer and BertelsmannSpringer will provide increased opportunities to invest in digitization of archives, new and improved electronic platforms and online submission and peer review tools and services, and more comprehensive distribution channels.

As always, our goal will continue to be to provide you with the highest quality content in a timely manner and in flexible formats in order to address your information needs. Today, millions of end users have easy access to Kluwer publications directly through KluwerOnline and through our online distribution partners around the world. In all subject areas these publications are accessed by hundreds of thousands of users per day and article downloads are continuing to grow at very high rates. Over the long term, the merger with BertelsmannSpringer will provide even more opportunities to service your needs for distribution of scholarly information to as wide an audience as possible.

STRATEGY OF PUBLICATION IN THE JTAC

Cs. Novák – Editor JTAC

The papes submitted to the JTAC are divided into two major parts:

A) Regular papers
B) Special Issues

Disregard of the type of the Issue, all papers are reviewed by two independent referees. As far as the Journal's yearly structure is concerned, in general, the published four volumes are divided into 6 issues containing regular papers and 6 issues containing special issues.

Surveying the submitted regular papers it can be stated, that the most frequently described topic is the inorganic chemistry and materials science. Checking the geographical distribution of the Authors it can be seen, that most part of our Authors is European. According to our intention, the Editorial Staff of the JTAC wishes to increase the participation of overseas Authors, especially from the United States. So far, all the Board members and Regional Editors from the North America Continent are face to higher expectations and much higher activity is required by their side, than ever before.

Turning to the field of Special Issues, they origin from three different fields.

A) Conference Proceedings

The Proceedings of major international conferences, as ICTAC and ESTAC are traditionally published in the JTAC. Besides, the publication of the domestic conferences with remarkable international participation (e.g. CCTA in Poland, CBRATEC in Brazil, Vacuum Microbalance Techniques Conferences controlled by E. Robens, the MEDICTA series, International Symposium on New Frontier of Thermal Studies of Materials from Japan edited by T. Atake) are very much welcomed.

B) Celebration Issues

In recent years special issues were dedicated to a couple of scientists, whose presence and outstanding activity played determining role in JTAC. The last Celebration Issues were dedicated to E. Turi (USA), J. Šesták, V. Balek (Czech Republic), G. Liptay (Hungary) and S. Yariv (Israel).

C) Selected Topics

Perhaps it can be stated, the real feature of the journals is determined according to the composition of their special issues on selected topics. In the recent years three special issues with substantially different contents have been published. In the first one the 'Speciality Polymers' (GE: T. Hatakeyama) were on the top, while in the other one papers dealing with Food and Related Topics (GE: P. Relkin) were published. The third kind of selected topics were dedicated to the application of thermal analysis in the pharmaceutical industry (GEs: J. Rollinger, Cs. Novák), which seems to become a tradition, since the first two selections were published in 2002 and 2003 and the next one is in 2004.

What about our plans in the near future?

In term of Special Issues, 2004 is full. Besides two conference proceedings and the 'Pharma Collection', further exciting issues are organised about the nano-composites, combined TA techniques, catalysts, etc., you'll see them in time.

WHO IS WHO IN THERMAL ANALYSIS AND CALORIMETRY SHORT REPORT ON THE BOOKLET IN PREPARATION

Prof. G. Liptay – Consulting Editor JTAC

It is known that there has been a personal and thematical transformation recently in Thermal Analysis. The majority of scientist working in the second part of the 1900s concentrated on developing different research methods in TA. Those scientists are slowly resigning from their research activity while there are only a few from the upcoming generation who would continue on this path. They were already born into the age of high capacity instrumentation and computerization and this makes the difference between the two generations apparent.

The sensitivity and accuracy of these instruments developed dramatically in the past decade and they are about reaching a level, where further improvement might not add to the scientific value any more. The emphasis is slowly shifting from research to the different aspects of applications for example in pharmaceutical-, food-, and plastic industry, where problem solving needs thermal analysis but the application of other analytical methods are also essential.

These two earlier mentioned facts gave us the idea to compile a publication with the title of 'Who is Who in Thermal Analysis and Calorimetry'.

We would like to include the career not only of those seniors who have reached their highest in their scientific life, but the younger generation as well, with the intention to provide a base for networking. It could also orientate in today's state in thermal science, and we hope that it would facilitate scientific relationships.

We invited the most successful and outstanding personalities of the profession to list their achievements, past and present activities, their field of expertise, and to share their contact details in order to guide those younger generations who have just started to get acquainted with a given special field. Using this booklet, I am convinced, it will be much easier to find and actually contact each other. The idea to include the instrument producing companies, and introduce them to the researchers occurred during the editing process. That's why we called on some of the most outstanding companies and offered them the possibility to be part of this handbook so we might bring supplier and user together. We are convinced that it is of great importance, considering that in the field of problem solving applied research more scientists use TA and calorimetry methods as supplementary ones.
We plan to publish this booklet in course of spring 2004 and we plan to distribute it at different national, and international congresses.

A LOOK INTO THE FUTURE

Prof. J. Kristóf and Prof. S. Yariv

An extended editorial meeting (with international participation) of the Journal of Thermal Analysis and Calorimetry (JTAC) was held at the Hungarian Academy of Sciences (Budapest) on October 20, 2003. The Meeting dealing with the future of ICTAC, the present and future positions of the JTAC, as well as with the thoughts of instrument producing companies was sponsored by the Thermal Analytical Committee of the Hungarian Academy of Sciences, the Akadémia Kiadó Budapest, the Kluwer Academic Publishers, the Trilogica-Simcon and the Lexica Ltd., as well as by the following instrument manufacturers: Mettler Toledo, LaborExport Ltd., TA Instruments Inc., and Setaram.

The Editor-in-Chief presented the Celebration Issue to Prof. Shmuel Yariv (33 papers) during the opening ceremony.

The President of ICTAC (J. Rouquerol) discussed the role of the organization since its foundation in 1965. Although the main goal of ICTAC is still the same (improving the thermal analysis community via improving communications, interactions, and problem solving), the 23 National Groups have to face with new challenges. Recent technological changes brought about the development of more sophisticated measurement techniques such as sample-controlled thermal analysis and modulated calorimetry. With the advent of computerized instruments the „push button" approach does not require deep knowledge of the field to carry out experimental work. As a consequence, ignorance of real physical and experimental problems as well as the acceptance of experimental results without a real check may result in false conclusions and incorrect interpretations.

The development of micro- and nanotechnologies require a multi-method approach and the knowledge of surface analysis techniques (e.g. SEM, AFM, XPS) as well. Efficient work for a thermal analyst necessitates the improvement of communication with other experts (most often with physicists increasingly employed in the field).

Problems associated with sustainable growth, environmental pollution, security, etc. increase economic competition and decrease government funds. As a consequence, there is less money for equipment, journals, travel and conferences, less permanent positions are available for scientists and more for post-docs. To handle these problems, a „simpler style" of ICTAC is desirable leading to lower costs and favouring cheaper regional meetings. To overcome the difficulties with attending conferences, a Task Group on Outside Travel Funds is formulated. In order to respond to the most important technological and economic changes, ICTAC's main goals are the broadening of the thermal analysis community, launching new national groups, and the organization of cheap courses and conferences. The importance of publishing recommendations, standards, procedures as well as introductory books (e.g. on CDs) is emphasized.

The international participating representatives (F. Giordano, A. Langier- Kuźniarowa, J. Menczel, L. Niinistö, B. Pacewska, M. Pyda, J. Šestak, P. Šimon) expressed their views on the present position of the JTAC. The development of the polymer and pharmaceutical industry, the move to the micro- and nano-world, etc. offer new opportunities for thermal analysts. E.g. in the pharmaceutical field quality control, accelerated stability and compatibility tests, the investigation of polymorphism and pseudo-polymorphism, control of unit processes, etc. represent the areas in which the vast majority of the techniques used fall into the category of thermal analysis.

The combination of thermoanalytical methods with other structure investigation techniques like XRD, FTIR, Raman, and MS widen the field of application, as well. Most companies want materials characterization people instead of thermal analysts. Thermal analysis, however, is a special area, not simply a branch of analytical chemistry. The publication strategy of the Journal should reflect the new developments in the field. Currently the JTAC has an internationally established position, offers a wide coverage of thermal analysis and has a good technical level. The improvement in instrumentation, the increasing general and applicational interest open new opportunities for the Journal. At the same time, the competing journals (e.g. Thermochim. Acta, J. Appl. Pyrol., J. Mat. Chem., Chemistry of Materials), the decreasing funds for university libraries, the reluctance of industry to support basic research lower the number of subscriptions. In order to strengthen the position of the Journal and increase its impact factor, the following suggestions were made: increase the rejection rate, use 3 competent referees, make topical reviews in every issue, speed up editing/printing, increase the frequency of issues to 18/24 per year, modernize the format (to A4), put emphasis on exciting new materials. To conclude, 'the Journal is a good one, but we have to make it even better'.

The future trends from the Publisher's view were outlined by Dr. E. Roberts (Publishing Editor, Kluwer Academic Publisher) and Dr. Zs. Bucsi Szabó (Director, Akadémiai Kiadó) followed by the Editor's report on the latest developments of the Journal by Prof. Cs. Novák, Associate Editor. Prof. G. Liptay (Consulting Editor) gave a short report on the preparation of the booklet 'Who-is-Who in Thermal Analysis and Calorimetry'.

Reports on the upcoming International Conferences were presented by Prof. A. Schiraldi (President, 13th International Congress on Thermal Analysis and Calorimetry, 2004 Chia Laguna Sardinia, Italy), Prof. A. Małecki (President, 9th European Symposium on Thermal Analysis and Calorimetry, 2006 Cracow, Poland), and Prof. D. Lőrinczy (6th International Conference on Food Physics and Dairy Sciences, 2004 Pécs, Hungary).

The representatives of instrument manufacturers (Dr. R. Riesen – Mettler Toledo, Dr. R. Naumann – Setaram, Mr. M. Uptmore – TA Instruments) gave an overview of their Company's development strategy. Increasing competition and users' expectations regarding performance, ease of operation, flexibility and precision characterize the instrument market. A strong demand for quantitative thermal analysis is one of the driving forces for the development of new generations of thermal analysis equipment.

During the Panel Discussion the participants expressed their views on the "hot topics" of thermal analysis. The role of the impact factor in judging the quality of a journal, the advantages/disadvantages of special issues, the present trends in industrial and technological developments, as well as the problems of thermal analysis education were among the mainstream thoughts of the discussion.