



Editorial

Preface to ISBC XIV Proceedings Special Issue

The fourteenth conference of the International Society for Biological Calorimetry, which was baptized “The Amber ISBC,” took place in the Tri-City Agglomeration of Gdańsk-Sopot-Gdynia with its nearly one million inhabitants from 2 to 6 June 2006. This was the most easterly point in Europe ever visited by ISBC. However, the nickname “The Amber ISBC” focused the location to Gdansk, which is indeed known to be the world amber capital, but it was actually organized to be in the neighbouring coastal Sopot under the Honorable Auspices of Mr. Jacek Karnowski—the President of this small and very lovely city.

Participants were welcomed by the Vice-President of Gdańsk University, Professor Anna Szaniawska who had a double interest in the conference both as an Officer of the host Institution and as a practitioner of calorimetry as a tool in studies of marine organisms. The opening lecture on “The Baltic Amber” was linked to the conference name and given by Dr. Elżbieta Sontag from the Museum of Amber Inclusions at the Gdańsk University, who also represented the International Amber Association at our gathering. In further reverence to this magic stone, the last conference talk presented by Professor Ingolf Lamprecht was dedicated to it, but from the direction of its thermal properties. Despite the rather small number of participants in comparison to most previous conferences, the XIVth ISBC Scientific Programme was exciting and diverse, covering a broad range of topics, from new technological achievements and bioenergetic findings through recent biological studies on plants and smaller animals to clinical applications. Around 60 participants representing various institutions and 15 different countries presented 37 talks and 33 posters in the course of 10 different thematic sessions. One of them was organized *In Memoriam* Professor Lisardo Núñez-Regueira who worked at the University of Santiago de Compostela in Spain—a past Chairman of ISBC and our good friend who sadly departed from this world suddenly in 2005. Another important point in the Conference Programme was the Lavoisier Medal which was conferred on Professor Mario Monti in recognition of his calorimetric studies in the field of medicine over many years. On the final day of the Conference a great

number of participants took part in the Workshop on “The Thermodynamics of Cellular Energy Transduction” which was led by Professor Lee D. Hansen from Brigham Young University in Provo, Utah, U.S.A.

Despite the length of the Scientific Programme, participants had an opportunity to visit some important sights in Gdańsk—the largest and the oldest component of the Tri-City Agglomeration. During the half-day tour, the charming guide Mrs. Gabriela Kosicka showed us the Oliwa Cathedral and Park, the Monument to the Shipyard Workers, the Solidarity Monument and Gdańsk’s historic old city. Participants could also taste regional and national Polish dishes during the Conference Dinner organized at the Fish Speciality Restaurant located directly on the Baltic seaside.

It would be not possible to organize XIVth ISBC without the support of many people and institutions. Firstly, I would like to express my special thankfulness to all members of the Department of Experimental Ecology of Marine Organisms in the Institute of Oceanography at the University of Gdansk for their invaluable work and goodwill. Secondly, I would like to express my gratitude to Professor Grzegorz Węgrzyn, Dean of the Faculty of Biology, Geography and Oceanology of Gdańsk University and to the Voivodeship Environment and Water Management Fund in Gdańsk for their financial support. This allowed me to help some participants to join the XIVth ISBC conference. Thirdly, special acknowledgments are dedicated to the members of the International Advisory Committee, Professors Ingolf Lamprecht, Richard B. Kemp and Lee D. Hansen, for their advice and great help during the complicated preparation of the XIVth ISBC. Fourthly, I thank very much all participants for coming to Sopot and creating the friendly atmosphere. I believe that this was a successful Conference and that the participants enjoyed the time spent in Sopot. I hope we meet again at the XVth ISBC, which is due to be organized by Professor Denes Lorinczy in Pécs, Hungary in 2008.

Monika Normant



In Memoriam Professor Lisardo Núñez Regueira, Santiago de Compostela, Galicia

A Farewell by his close colleagues

It has been much more than a year since our colleague and friend Professor Lisardo Núñez Regueira (1939–2005) left us. What life really teaches us since the very moment we are born is that time inexorably passes by and that hard times end up vanishing. Maybe that is the way we get over adversity and pain and make sure that life keeps on its routine. The only thing that remains after the passage of time is the feeling of friendship and affection for our close people, represented in memories engraved in our mind and our heart till our own time to pass on the torch arrives.

It seems only yesterday when a new Near-East War made it impossible for our colleagues in Israel to organize the planned scientific meeting MEDICTA 2001 there. Already deeply engaged in the preparation of another international congress (ISBC XII) at the same time, Professor Núñez was asked to organize this one as well and in record time. With his characteristic but for Galician people so typical modesty, Lisardo begged his colleagues to allow him some time to phone “his” Vice-chancellor before taking any decision. So, he made the call and then prepared both meetings, MEDICTA 2001 immediately following ISBC XII. This action became his international and definite acknowledgment by his colleagues and friends for his human and scientific capacity and showed how a person, with his international reputation, and with the responsibility for two conferences, had the modesty and elegance to talk to “his Vice-Chancellor” – as he liked to call him – to ask him for the institutional support that any other person in his position

would have omitted. This attitude to life drove him to reach that privileged and respected position among his colleagues and friends.

As we were preparing this *In Memoriam*, a mixture of sadness, anger, pride and admiration overwhelmed us for being so fortunate as to have met a person like Professor Núñez. We do not want this piece to be the classical unaffectionate and descriptive presentation about a person who has always been full of life, ideas and illusion for all the things around him. We want it to be a dynamic expression of what Lisardo’s life was like and, if we work together and join our illusions, this memory will keep growing and lasting in our lives.

Lisardo’s life, as that of a proper son of Galicia, was moving between Rosalía’s Romanticism and the Galician Relativism, as a way of feeling and of living life, the heritage of those who are born in this Galician land, which felt like something of our own that cannot be waived, was a part of Lisardo’s character, making him so different and at the same time so close to all of us.

Lisardo, we missed you at Campinas, we remembered you at Gdańsk, and your presence overcame all the activities during the CALCAT’06 at your city and at your University. This is the memory that all those who loved and respected you want to keep. The emptiness you left will be difficult to fill. Only the admiration and affection of your family, of friends and colleagues will make sure that your memory stays alive and that it becomes an example of effort and work to all. Let us say goodbye with the last lines of one of the most famous poems of our Galician Rosalía:

¡Adios, gloria! ¡Adios, contento!	Goodbye, glory! Goodbye, happiness!
¡Deixo a casa onde nascin,	I leave the home where I was born,
deixo a aldea que quonoço,	I leave the village I know,
por un mondo que non vin!	for a world that I have never seen!

Rosalía de Castro (born in Santiago de Compostela, Galicia on 21 February 1837, died in Padrón, Galicia on 15 July 1885), a lyric poet of the Galician *rexurdimento* (“renaissance”), who wrote most of her poems in the Galician language.

His TERBIPROMAT colleagues

Words of Remembrance on behalf of his wider circle of friends

It was in the hot phase of preparing the XIVth ISBC conference in Sopot when the inconceivable and for most of us the completely unexpected information of Professor Lisardo Núñez Regueira’s untimely death hit us. The news spread in half a day around the World by phone, leaving us in a deep shock. It seemed that with him Santiago de Compostela had passed away, not only a colleague full of energy, dynamics and ideas, but one of openness and hospitality, with scientific and personal contacts around the globe. Our immediate idea was to dedicate the forthcoming ISBC conference to his memory, but then we learned that there would be a special conference in honour of him at his university – the *Calorimetry and Thermal Analysis Conference (CALCAT’06), Tools in Science, Industry and Environmental Studies* – the Proceedings of which would be published in the *Journal of Thermal Analysis and Calorimetry*. So, instead, we decided to have a special session dedicated to

him, and invited Professor Nieves Barros, one of his old friends who had worked with him for a long time, and had in the interim become head of her own research group, to give the Memoriam address. Additionally, we invited members of Professor Núñez's late group TERBIPROMAT (TERmodinámica de BIOPRocesos y MATeriales—the Thermodynamics of Bioprocesses and Materials) to present a survey of recent results from the group. Their contributions are included in this Special Issue together with the above very personal *In Memoriam* written by them.

Professor Núñez left a scientific oeuvre of nearly 100 papers published in internationally renowned journals, all from his field of Applied Physics in the broadest sense. Besides a few publications in inorganic and organic chemistry and about 30 on investigations of epoxy systems, there are – significantly increasing latterly – a dozen publications in the field of biological calorimetry, mainly concerning soil and microorganisms. But his heart was beating for another application: his risk maps of wild fires in Galicia that were based on combustion calorimetry. This topic looked interesting but a bit academic from the outside, and only became significant separately for two of the present editors when they landed for the first time in Santiago de Compostela: two yellow Canadian-built, fire-fighting planes parked ready for departure alongside the main terminal of the airport. In recent years, daily news each summer and especially in 2006 underline the topical practicality of his risk maps. Twenty-nine of the papers on Lisardo's list are on the use of combustion calorimetry in forming these maps to predict the potential for forest fires. And more are in preparation. Thus, his early death is not only a heavy loss for his friends and colleagues, but also for Galician forests and ecosystems.

Lisardo Núñez was a committed member of ISBC, having attended and been bitten by our 7th conference at Egham in the Royal Holloway and Bedford New College of London University. So he became a “regular”, revealing to us all in equal measure the quality of his scientific research and the warmth of his friendship. There were no doubters when he volunteered to the ISBC Secretary, Richard Kemp, that Santiago de Compostela would be an excellent venue for the XIIth Conference in 2001. Thus he joined the illustrious ranks of ISBC Chairmen, stretching from Tony Beezer in 1972 to Monika Normant in 2006.

Professor Núñez's hospitality could be called proverbial. It was a pleasure to walk with him through “his” city, Santiago de Compostela, and to admire its beauty and atmosphere, to experience the feeling of being welcome everywhere because of him, by the Rector of the University as well as in the smallest tasca for a glass of wine and a handful of peanuts before going to an excellent dinner late at night. Lisardo loved meetings with his friends and colleagues in Santiago and around the globe, loved eating and drinking, his favourite football team “Depor” (Deportivo de la Coruña) and swimming in the bay of Sarda near his second home, and above all he loved his homeland Galicia where he was born and spent his life. At the end of both “his” ISBC XII and MEDICTA 2001 meetings, each participant received a white-blue ceramic dove with the Saint-Jacobs-Mussel emblem of these meetings (so some have two to cherish!) on the breast and the poem “¡Adios, gloria!” recited above on the wings.

Professor Núñez loved life in all its facets; to say it with Shakespeare (Hamlet II, Scene 2):

“He was a man, take him for all in all.”

The Editors

Professor Mario Monti—Lavoisier Medallist

At the height of his career, Mario Monti was a fulltime physician and a fulltime calorimetrist in Lund, Sweden! He combined the two by being in a University Hospital where medicine was taught and where clinical research combined with clinics for outpatients and beds for inpatients was the norm—plenty of captive material! Mario was there rather a long time, from 1969 to his retirement in 1992, fifteen years ago! Although he was born in Florence, Italy in 1927 and graduated from Medical School in Bari in 1951, his addiction to Sweden began immediately thereafter when he undertook post-graduation instruction in surgery for 2 years at the famous Karolinska Hospital in Stockholm followed by training in internal medicine at hospitals in New York City and in Pueblo, Colorado, USA for 3 years. Equipped with these new skills, in 1956 Mario continued his travels by his first appointment as chief physician at a local hospital in Rio Grande do Sul, Erebangó, Brazil. He returned to Europe in 1962 to become specialist physician at the Department of Internal Medicine at hospitals in Finsterwalde and Quedlingburg, Germany before being lured back to Sweden in 1966, firstly as a physician at the hospital in Gävle and then his final move to the Department of Internal Medicine in Lund.

At the turn of the 1970's, Ingemar Wadsö was evangelising about the wider virtues of microcalorimetry beyond physical chemistry and thermodynamics (his own fields) to become an analytical tool in biology and medicine. Mario did not find it difficult to share Ingemar's belief that the instrument could be a diagnostic tool, and focused his attention on his knowledge of internal medicine. Like the slightly earlier doctoral medic in Sweden, Klaus Levin, it became obvious to him that blood, easily obtained – and not just by Dracula – and highly diagnostic in its properties, was the easiest source of human tissue and had the greatest potential both as whole blood and its relatively easily isolated components in terms of red cells and the sub-fractions of the various types of white cell. Being early in the field, Mario had to make methodological advances as well as testing for correlations between human diseases manifest in the blood cells and their heat flux. I remember going to a conference organized by Ingemar in the early 1970's and sponsored by the Swedish Red Cross at which Mario gave an impressive talk about his work on blood cells.

Ad unguem factus homo.

Horace (Satires bk 1, no.5, l. 32)

It was clear even at that stage that calorimetry held great promise as a diagnostic tool and his work was central to it. Thus it was but a step in a new career as a calorimetrist that in 1976 he defended his doctoral thesis “Microcalorimetric investigations of heat production of human blood cells”. It is probably no

coincidence that, in the same year, Mario was appointed Senior Physician and Associate Professor.

Having demonstrated the potential of microcalorimetry in haematology to detect aspects of anaemia and obesity as well as environmental hazards such as heavy metals and the toxicity of some pharmaceuticals, over the next 20 years he went on to show that certain forms of cancer could be identified because of the high metabolic rate of their cells, e.g. Non-Hodgkin lymphoma and leukaemia; that immunological changes could be mirrored in the white cells; that thyroid dysfunction was manifest in red and white cells. The list is endless, including detective studies on aspects of the cardiovascular system, e.g. the role of β -adrenoceptor blockers, adipositas dolorosa, anorexia nervosa and liver and kidney problems. I stop at that point, so as not to become depressive (can that be detected by microcalorimetry?) about medical conditions at my time of life, but it is remarkable that he published over 130 papers and reviews, mostly involving heat flux studies, besides his duties as a physician. In the course of it he gained the International Enna Prize and Gold Medal.

Such a worth of potential diagnostic tools by making heat measurements was frustrated by low turnover. Everyone knows the huge degree of automation for rapid turnover that has occurred over the years in Pathology laboratories in order to serve medical needs as speedily as possible. Microcalorimetry stood no chance but now we have multi-channel, conventional calorimeters, not to mention the invention of miniaturized, silicon chip-based calorimeters. But what is needed is something on the scale of microtitre plates, like the enthalpy arrays—a number of chips to give multiple samples equivalent to the plates. Then

the true importance of Mario's work will be realised – a man ahead of his century – *palmum qui meruit ferat!*

Richard Kemp

We wish to thank all the contributors for their manuscripts and for their patience and co-operation in ensuring that the recommendations of the reviewers and ourselves were followed as far as reasonable to result in better papers. The peer review process is crucial to the authenticity of the science we wish to present to the world but in order to give the reader a flavour of the Conference in all its dimensions occasionally we have erred on the side of the authors and allowed our “hearts to rule our heads” in favour of ISBC as a Society of calorimetric friends.

Richard Kemp*

*Institute of Biological Sciences, Edward Llwyd Building,
University of Wales, Aberystwyth SY23 3DA, Wales, UK*

Ingolf Lamprecht

*Institute of Biology, Free University of Berlin, D-14195
Berlin, Germany*

Monika Normant

*Department of Experimental Ecology of Marine Organisms,
Institute of Oceanography, University of Gdańsk, 81-378
Gdynia, Poland*

* Corresponding author. Tel.: +44 1970 622333;
fax: +44 1970 622350.

E-mail address: rbk@aber.ac.uk (R. Kemp)

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