

International Conference on the Bioscience of Lipids



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NEWSLETTER 2004

Table of contents:

The 44 th ICBL : a golden jubilee conference	pg. 1-6
Scientific Report on the 44th ICBL, Oxford, UK	pg. 6-9
The 45 th ICBL, Ioannina, Greece	pg. 9-11
The 46 th ICBL, Ajaccio, Corsica, France	pg. 12

THE 44TH ICBL : A GOLDEN JUBILEE CONFERENCE

OXFORD SEPTEMBER 2003

“LIPIDOLOGISTS IN WONDERLAND”

1953 is for Belgium a year to remember ... the start of Belgian Television, but also for ICBL that same year is a most memorable one as in 1953 the first ICBL ever was convened in Brussels as an initiative of the late Professor R. Ruysen. So in 2003 - at the occasion of the 44th International Conference on the Bioscience of Lipids - ICBL could blow out fifty candles to celebrate its 50th birthday.

The alert reader of this contribution might be intrigued by the somewhat fairy tale-like subtitle in italic of this incensing eulogy to the “44th ICBL”. To clarify, the fairy tale “Alice’s Adventures in Wonderland” (1865) was written by Lewis Carroll, the pen name of a Charles Dodgson, who was a maths don at the university of Oxford ... and indeed the venue of the 44th ICBL. As already in 1957, an ICBL conference was convened in this university town, it was for ICBL a unique opportunity to revisit this timeless place, which emanates a special atmosphere that the participants immediately inhaled upon arrival. Oxford indeed is an enigmatic mix of young and old, of town and gown, of celebrated academic and historic culture and 21st century entertainment, of energetic changes and centuries old tradition. Oxford is all these things and more, an impressive collection of buildings (Radcliffe Camera, the Bodleian Library, the Sheldonian Theatre, the Ashmolean Museum, Oriel Square, Carfax Tower and so on next to over 30 Colleges dotted around the City) within a space of less than one square mile. When strolling around these beautiful places one cannot escape noticing the gentlemen like custodians of the Colleges, all equipped with a bowler hats with red silk inside, and made the same way for over 200 years, together with their indispensable umbrellas. Quoting F. Max Müller: “Oxford changes with every generation. It is always growing old, but it is always growing young again”.

The 1957 Oxford Conference was organized by the inimitable Hughes Sinclair, once the unequalled poet of our ICBL community. In 2003 the “chosen one” to chair the Golden Jubilee Conference was Professor Richard Bruckdorfer from the Royal Free and University College Medical School in London.

Some of you might wonder why not having had this Golden Jubilee Conference in Flanders/Belgium, the real cradle of ICBL. Truly so, but because the Silver Jubilee was celebrated in Belgium and an ICBL had already been convened in the country of origin in the late nineties, the ICBL Steering Committee had favoured Great Britain to celebrate ICBL’s 50th birthday ... and not at all unfair! During the existence of ICBL our “society” despite its Flemish roots has always been intimately allied with the “Land of Hope and Glory”. Three of the seven ICBL presidents having served office since 1953 were from British origin and already eight ICBL conferences have been convened on the sceptred isle.

For the conference and accomodation facilities of the 44th ICBL the organizers had selected the Sloane-Robinson Conference Centre under the roof of the fine setting of Keble College at walking distance of the town centre. Keble College was founded in memory of the much revered poet, pastor and priest John Keble. The College has various nick names including “Knitted College” because of its unusual patterned edifice of red, black and cream-coloured brickwork. I hope the temporary residents had time to have a look around and visit Keble College’s Chapel. Inside you can find the painting “The Light of the World” by William Holman Hunt symbolizing Christ’s knocking at the door of the human soul practically everyone’s bedside picture in the 19th century.

From already the first moment we really felt “Back to the Future” when realizing that we were going to sleep in a dormitory where perhaps “Lawrence of Arabia” or other Oxonians not to name Oscar Wilde, John Keats, Percy B. Shelley, Samuel Johnson, J.R.R. Tolkien and numerous others were once residents. Moreover the accomodation was much more modern than the Spartan rooms expected by the conference attendees. Only one hiatus ... some participants after having taken a shower did not succeed in turning off the water supply. The college technician was so kind to remedy for this rather “wet” discomfort. After his explanation the victimized suddenly understood why the British drive at the “wrong” side of the road. The dining hall of Keble College inspired our phantasy in as far that I, not being alone, could not withhold myself to search for Harry Potter, although Christ Church’s Great Hall and grand staircase were the real filmset for Hogwarts School in the movie “Harry Potter and the Sorcerer’s Stone”. Christ Church College was also the college where Lewis Carroll met Alice Liddell, his inspiration for “Alice’s Adventures in Wonderland” and the daughter of the dean of Christ Church.

At breakfast, lunch and dinner time we always were welcomed by the long-haired Samsom-like Hall manager (by the way his name was Gerard Mc Hugh of Irish origin and in fact a very nice person) strictly designating us our seats and allowing no contest. We truly felt somewhat like Oxonian undergraduates but without scholar’s gown and mortarboard. With regard to the quality of the food I have the feeling that our meals were much more appetizing and well-groomed than served to regular undergraduates.

At the occasion of the opening ceremony I really sympathized with Professor Richard Bruckdorfer, Chairman in charge of this 44th ICBL being affected by a severe cold, the nightmare of every conference organizer, always worrying about himself or his closest coworkers getting sick at that critical moment not to forget about a similar fate meeting the invited speakers. Fortunately the ICBL Steering Committee members noticed that his “physical condition” ameliorated gradually every day correlating extremely well ($P < 0,001$) with his pure malt scotch consumption in the

college bar at evening. Indeed from the first day of the conference the participants easily found their way to that drinking place.

After the opening address by Richard Bruckdorfer our President Professor F. Spener heartily welcomed the participants of the Golden Jubilee Conference. During his speech he referred to Oxford as the first venue of an ICBL outside Belgium and to Professor A.C. Frazer nominated as second ICBL President in 1965. Professor F. Spener also alluded on the pioneering experiments of Burr demonstrating the essential role of $\omega 3$ and $\omega 6$ polyunsaturated fatty acids. Unfortunately he also had to announce the sad news that the ICBL secretary and friend of many ICBLians Professor Giovanni Galli from Milan had died suddenly last May. For ICBL and for myself personally a deeply irreplaceable loss. Giovanni and myself had "joined" ICBL at the same time in 1972 at the occasion of the 15th ICBL in the Hague. We also became "integrated" in the ICBL Steering Committee in the same year 1981 during the the 23rd ICBL in Nyborg. We have co-operated fruitfully for eight years, himself as a devoted secretary and myself as President. In all these years we have become close friends ... we grew accustomed to each others faces. Referring to the pen name of a world famous Italian author I and ICBL always will treasure the memory of our "Eco" (ex caelis oblatu). Although physically absent Giovanni Galli was spiritually omnipresent in the mind of many of us during all the conference. I also insist to express my deepest esteem towards his courageous widow, Professor Marzia Galli Kienle, who consented to succeed her husband as ICBL secretary. Thanks Marzia.

An ICBL opening ceremony without a L.L.M. Van Deenen lecture no longer is imaginable. For this 44th ICBL Professor L.B. Fielding was invited to take care of this honour. During his most inspiring presentation he made intensive efforts to indoctrinate the audience into the differences between caveolae and rafts. Respecting 50 years of ICBL tradition and at the same time adapting to a four day conference the local organizers had limited the scientific programme to four symposia including: (1) The Transport and Distribution of Triacylglycerols; (2) Lipids and Transcription Factors; (3) New Aspects in Cholesterol Research and (4) Lipid Oxidation: a Key Process in Pathology or an Epiphenomenon? The lectures upon invitation were all eloquently presented by authorities in the field in accordance with the high scientific standards of ICBL and accompanied by a series of oral communications related to the respective session topics. This year also a number of hot topic presentations were programmed. Self evidently the poster sessions - two to be exactly - came also into the picture being busily frequented and as always fostering lively discussions and the fruitful exchange of ideas. As an extra gift from the organizers to ICBL to mark the milestone of its 50th birthday a special most enlightening lecture was delivered by Thomas Olivecrona, a former Ph.D. student of S. Bergström, a founding father of ICBL and the organizer of the Stockholm ICBL meeting in 1963. In his presentation Thomas referred to the first ICBL conference at which lipases were already positioned in the centre of lipid metabolism. From his lecture I learned that the Roman saying "nihil novi sub sole" still holds, but I also remember his statement so true for scientific research "the slaying of a beautiful hypothesis by an ugly fact". At the end of the outstanding scientific programme of this ICBL the last two lectures left the audience with a big question mark about the usefulness of antioxidants. Shakespeare, who often stayed in Oxford at number 3 of Cornmarket Street to break his journey from Stratford to London, should have reflected about this dilemma probably this way: "Antioxidants: to be or not to be?" An extensive overview of the scientific programme by Richard Bruckdorfer can be read in the ensuing contribution of this ICBL Newsletter.

An ICBL without social events is indeed a mission impossible. For this Golden Jubilee, as always, ICBL really feels in debt towards the organizers, who's efforts are highly appreciated already starting with the reception and buffet in the Oxford University Museum of Natural History situated opposite Keble College entrance gate. The museum houses Oxford University's extensive world-

wide natural history collection in a splendid high-Victorian gothic building with historic material donated by scientists such as Darwin not to forget the remains of Europe's last dodo immortalized in "Alice's Adventures in Wonderland" and extinct since 1680. Surrounded by fossil dinosaurs we could not escape the feeling of being in Jurassic Park, but this did not prevent us from enjoying the excellent food and beverages being served.

A most pleasant evening ... or better a night to remember was when instead of frequenting the College Bar we were guided by Klaus Wahle to one of the many pubs in Oxford more specifically to the "Turf Tavern" for an education in intoxication (joking!!!). This pub, also very popular by the students, dates back to the 13th century and can only be reached by a narrow alleyway close to the "Bridge of Sighs" named after its Venetian counterpart. This tavern was on numerous occasions the set for the very popular television crime series "Inspector Morse", but also in Thomas Hardy's "Jude the Obscure" this pub is described as the low ceilinged tavern, where Jude courted the barmaid Arabella. Besides the "Turf Tavern" also the "Morse Bar" in the more exquisite and stylish hotel "The Randolph" has been intimately associated with the TV-screening of the Morse programme. At leisure times some delegates could not resist going inside for a "decent pint" or a "Morse Special" as inspector Morse did while thinking his way through the complex cases that confronted the Thomas Valley Police during each episode. Sitting back in that bar we savoured the occasion of being there just as Morse did.

There was this rumour that our ICBL President instead of frequenting pubs and bars had paid a visit to the Museum of the History of Science housing Einstein's blackboard with his most famous formula $E = mc^2$. We wonder if our commander and chief is planning to interlink Einstein's relativity theory with the Bioscience of Lipids. Fortunately he did not imitate that brilliant but eccentric student Oscar Wilde ... taking his pet "lobster" for a walk.

On Monday afternoon a special tour to Blenheim Palace was offered the accompanying guests under the safe guidance of Mrs. R. Bruckdorfer. This priceless national heritage and a master piece of English Baroque is the home of the 11th Duke of Malborough and the birthplace of Sir Winston Churchill. The Blenheim Palace Estate was a generous gift from Queen Anne in 1704 to the first Duke of Malborough John Churchill in recognition of his victory at the Battle of Blindheim in Bavaria. The 2,100 acre park provides a matchless setting, framing the Palace against the skyline and overlooking the lake and Vanbrugh's Grand Bridge. At 0.4 hectares (over one acre) the Malborough Maze at Blenheim Palace is the world's largest symbolic hedge maze. After the guided visit to the Palace the group of accompanying persons was given free time for strolling around in the neighbouring Woodstock, a most typical Cotswolds' village.

As a break from the hard work during conference time the organizers had arranged on Tuesday afternoon for a most pleasant boat trip on the River Thames more exactly the Isis as this stretch of the River Thames is known locally. The departure was at Folly Bridge, where the boat company "Salters Steamers" is located, but where you also can find the largest pub in Oxford "The Head of the River" named after a rowing event. Folly bridge is the site of the original ford where oxen crossed and from which Oxford gets its name. During that boat trip we realized that there is no better way of enjoying the peace and beauty of the river Thames than by sitting back on the deck of a steamer. Indeed there was lots of time to appreciate the endless pageant of the Thames with its patient fishermen, oarsmen, yachtsmen and bathers next to the ever-changing panorama of the English countryside and the picturesque villages and historic towns on its banks. In addition the delegates were regularly and generously offered wine, beer and other refreshments. During this "Odyssey" we passed two locks amongst Iffley lock, where we arrived around 15h05 much later than the in Jerome K. Jerome's "Three Men in a Boat", who passed by at about half past twelve on a day in 1889. Joking apart, we all had a most enjoyable and relaxing time. After the boat trip upon

returning to Keble College tea was served on the lawn outside the Arco Building and equipment to play the old English game of croquet was available.

During the conference I have been asked at several occasions if the pleasure fair on St Giles Road was also an initiative of the conference organizers as a diversion for the delegates and accompanying persons. Honestly, although with some hesitation and regret, I had to give a negative answer. The earliest record of this St Giles's Fair, as it is called and still held each September, dates from 1624. Originally a religious festival, in Victorian times it became popular for its freak shows and female wrestlers ... in 2003 for eccentric lipidologists.

The "socializing" apotheosis of the 44th ICBL as for every ICBL-meeting was the conference dinner. After the saying of the thanksgiving prayer by the "Master of Ceremonies" a most delicious dinner of really superior culinary art aroused with savoury white and red wines was served. The ICBL Steering Committee members being seated at the Honorary Table of the Dons really felt impressed. During his annual speech to the guests the ICBL President was proud to present the "Golden Jubilee Commemorative Booklet" edited at the occasion of ICBL's 50th birthday and including many reflections on ICBL's past, present and future. Later on the booklet was distributed among the participants by the ICBL Steering Committee members. At the end according to ICBL tradition the glasses were raised to the spirit of ICBL. At that moment I regretted that Professor Alan Garton the last British (or should I say Scottish) ICBL President because of some, although minor physical problems related to his respectable age of 81 years had decided not to attend this Jubilee Meeting. Dear Alan and Gladys, we have missed you both and I am sure you have appreciated receiving the postal card with the best wishes of the ICBL Steering Committee.

Also in the Golden Jubilee Year the conference dinner was the perfect setting for the proclamation of the ICBL Poster Awards by Klaus "Mc" Wahle, chairman of the selection committee, claiming to originate from Aberdeen ... the Venice of the North (I always have thought Bruges filled that role). As usual he could not resist starting his presentation by giving us a cameo of the history of his unusual and somewhat eccentric ancestors, this year going back to a Von Wahle who lectured in Oxford in 1188. Nevertheless he gave a most powerful presentation in the line of the "Oxford Intelligentia" seeming not only to be inspired by his ancestors but also by the academic ambiance of the Oxford Colleges. In 2003 the following poster award winners - announced with true Hitchcock suspense - could be proclaimed :

1. Liver steatosis, lipoprotein oversecretion and hypotriglyceridaemia in C57Bl/6j mice fed *trans*-10, *cis*-12 linoleic acid. Pascal Gegrace, Laurent Demizieux, Joseph Gresti, Jean-Michel Chardigny, Jean-Louis Sébédio and Pierre Clouet from Dijon, France.
2. Chylomicron remnant-like particles modify endothelial cell production of vasoactive mediators. M. Evans, Y. Berhane, K.M. Botham, J. Elliott and C.P.D. Wheeler-Jones from London, UK.
3. Bile acids synthesis: influence of newly synthesized cholesterol during pharmacological interruption of the enterohepatic circulation. M. Galli Kienle, M. Bertolotti, L. Zambianchi, L. Carulli, M.S. Simonini, M. Del Puppo, P. Loria and N. Carulli from Milan/Modena, Italy.

Dear Richard and "crew", I can imagine that the organization of the Oxford ICBL Meeting has not been an easy task not to say a real burden. External factors beyond your control like the British Pound being very strong against the Euro, September 21st, the war in Iraq, the fear for a terrorist attack not to mention the Sars epidemic undoubtedly have compromised the interest for attending this 44th ICBL. But allow me, despite all these handicaps, the ICBL Steering Committee insists on complimenting you and your coworkers for this meeting of unsurpassed excellence, a conference of high calibre that you would wish for yourself. I can guarantee that the participants have enjoyed every minute of this Golden Jubilee Conference scientifically as well as socially. **In 2003**

Brittannia has ruled the “lipid” waves. From the viewpoint of ICBL referring to one of my Sinatra’s favourites I do not hesitate to say that **2003 was a good year...a very good year for ICBL.**

The closing ceremony, the moment for the farewell addresses, is also the ideal opportunity to announce the next ICBL to which we were cordially invited by Professor Alexandros Tselepis. In 2004 the ICBL “Argonauts” will “sail” to Greece, where in the city of Ioannina the 45th ICBL will be organized. The last ICBL in Greece already goes back nearly 35 years, to be exact the Athens’ meeting in 1969. The topics of the scientific programme including a session on the biological activity of olive oil components (not so unexpectedly in a Mediterranean country) sound very promising as does the attractive social framework of the meeting, including excursions to the ancient theatre of Dodoni, the typical bridges of Epirus and the Vikos Canyon. If I am well informed some of the ICBL Steering Committee members already started to practise the “Sirtaki” dance and drinking “Ouzo” in order to be ready for competing with “Zorba The Greek” in May 2004. Although not having consulted Delphi’s Oracle I am convinced that this “Hellenic Adventure” of ICBL will turn out into an unforgettable happening. Looking forward to meeting you all again on that occasion, I remain, together with St Frideswide, Oxford’s patron saint.

Your humble ICBL Servant
Albert Lagrou
ICBL President 1990-1997

44th International Conference on the Bioscience of Lipids (ICBL)

Oxford, UK, September 7-11th 2003

(An independent meeting supported by the Biochemical Society)

Scientific Report

The meetings of ICBL have been held annually, except in the very early years, but the very first meeting was actually held 50 years ago this year and therefore an occasion for special celebration. Over 120 participants attended the meeting in Oxford, which provided an excellent venue for the meeting and individual interactions. The meeting was divided into four separate topics with two special lectures, the first the Laurens van Deenen Lecture which is held annually and this year given by **Christopher Fielding** of San Francisco and the second a special lecture for the 50th anniversary given by **Thomas Olivecrona** from Umeå.

Session I The transport and distribution of triacylglycerols

Christine Williams (Reading, UK) discussed how dietary fatty acids may affect chylomicron synthesis and secretion. Ingestion of polyunsaturated fats leads to secretion of larger chylomicrons. Oleic acid-rich meals tend to lead to secretion of large numbers of chylomicrons; the mechanism for this effect is not clear but even in cellular systems (CaCo2 cells), oleic acid leads to greater triacylglycerol secretion than do saturated or polyunsaturated fatty acids. **Geoff Gibbons** (Oxford, UK) showed that in VLDL assembly and secretion, evidence now points to a two-stage assembly of VLDL particles in the hepatocyte. The triacylglycerols incorporated into the particles arise through lipolysis of a cytosolic triacylglycerol pool; Prof. **Gibbons’** work suggests arylamide deacetylase as the relevant lipase. Diacylglycerol acyltransferase-1 (DGAT-1) is responsible for esterification of fatty acids entering the hepatocyte to form the cytosolic triacylglycerol pool, whereas DGAT-2 is responsible for synthesis of the triacylglycerol to be incorporated into the VLDL particle. **Carol Shoulders** (London, UK) reviewed genetics and protein structures regulating triacylglycerol-rich lipoprotein (TRL) production. Microsomal triglyceride transfer protein (MTP) is necessary for the transfer of triacylglycerol into the nascent TRL particle. MTP forms a heterodimer with protein

disulphide isomerase (PDI). Mutations in MTP that affect its binding to PDI may produce abetalipoproteinaemia or hypobetalipoproteinaemia. In chylomicron retention disease and Anderson disease, chylomicrons cannot be secreted. The defect is in a protein known as Sar1b. **Patrick Tso** (Cincinnati OH, USA) described enterocyte fatty acid uptake and intestinal fatty acid binding protein and the importance of intestinal micelle formation for absorption of fatty acids and cholesterol through the unstirred water layer. Studies of fatty acid uptake using intestinal sacs long ago suggested that, at millimolar concentrations (as in micelles), almost all uptake is via simple diffusion. Fat absorption is grossly normal in mice deficient for CD36, a putative fatty acid transporter, although studies with large fat loads suggest a delayed absorption. There are two intestinal fatty acid binding proteins (FABPs), intestinal-FABP and liver-FABP. Knockout of the intestinal-FABP does not affect fat absorption. **Trevor Redgrave** (Crawley WA, Australia) described the preparation of chylomicron-like and remnant-like emulsions and their use to study remnant metabolism in human subjects. A ¹³C-labelled fatty acid was incorporated in either the cholesteryl ester component (that 'traces' the core of the particle) or the triacylglycerol; ¹³CO₂ evolution in breath then gives a measure of the metabolic fate of the particles. In a number of metabolic states (e.g. diabetes, abdominal obesity) this technique showed an impairment of remnant metabolism, which could be ameliorated with treatment, e.g. with fibrates, statins, weight loss or exercise. **Thomas Olivecrona** (Umea, Sweden) in his 50th Anniversary Lecture reviewed the history and the modern understanding of lipoprotein lipase (LPL). LPL provides a 'bridging function' enabling TRL particles to bind at the site of hydrolysis. Recent data suggest a novel method of regulation, whereby LPL protein production proceeds at a relatively constant rate but the fate of that protein is diverted between secretion as active enzyme or degradation requiring an unknown gene to direct LPL into the 'inactivation' pathway. Further selected oral presentations were made by **Jan Glatz** (Maastricht, the Netherlands) on long chain fatty acid uptake in cardiomyocytes in Zucker rats, by **Anders Jacobsson** (Stockholm, Sweden) on abnormal triacylglycerol composition in the skin of mice ablated in the Elovl3 gene and by **Phillipe Legrand** (Rennes, France) on palmitoyl CoA Δ6 desaturase in rats.

Session II Lipids and transcription factors

The session was introduced by **Peter Edwards** (Los Angeles CA, USA) who described his recent work on the regulation of lipid metabolism by two nuclear receptors, LXR (liver X-receptor) and FXR (farnesoid X-receptor). The latter is activated physiologically by bile acids. The use of chenodeoxycholic acid (CA) as a screen for hepatic FXR targets both in vivo and in vitro revealed transcriptional activation of a number of genes involved in lipoprotein and bile acid metabolism. Amongst these was Syndecan-1 (SDC-1) which is involved in hepatic LDL uptake and metabolism. It was proposed that increased expression of SDC-1 may account for the hypolipidaemic effects of CA administration to human subjects.

Xion Ruan (London, UK) reviewed the role of SREBP/SCAP/INSIG trafficking between the ER and Golgi in the regulation of lipid and lipoprotein metabolism. In particular, he highlighted the importance of this pathway in the kidney and discussed its role in the transmission of signals originating from inflammatory mediators such as TNFα and IL1β. **Maurizio Crestani** (Milan, Italy) described how activation of LXR, HNF-4 and FXR integrated the several steps involved in reverse cholesterol transport. A particularly interesting finding was that bile acids were capable of down-regulating the expression of PEPCK, thus contributing to the regulation of glucose homeostasis. **Chris Knouff** (Illkirch, France) described the phenotype of an adipose-tissue specific mouse knockout of PPARγ2. Many of these mice die in infancy, but the survivors, although lipodystrophic, compensate for the incipient hyperlipidaemia by a remarkable increase in the fatty acid oxidative capacity of muscle tissue. A role for the ubiquitously expressed PPAR-β in skin wound healing was described by **Walter Wahli** (Lausanne, Switzerland). The process involves a

cytokine driven increase in the formation of a lipid-derived ligand for PPAR β which increases keratinocyte migration and survival. Isabelle Dugail (Paris, France) provided convincing evidence for a pivotal role for unesterified cholesterol in the regulation of adipocyte triacylglycerol storage. This process involves cholesterol trafficking between the plasma membrane and the surface of the adipocyte droplet and is reflected by changes in the activation of SREBP-2.

The session concluded with 5 presentations of selected posters. These described the regulation of human SREBP1c (**Elizabeth Tarling**, Nottingham, UK), the role of HNF-4 α in the liver of hyperinsulinaemic rats (**Alba Vecchini**, Perugia, Italy), the regulation of NFAT and NF κ B (**Wasif Khan**, Nashville TN, USA), phospholipid-mediated changes in gene expression in the brain (**Gwendolyn Barcelo-Coblijn**, Szeged, Hungary) and the role of dietary fats in modifying endothelial cell function *via* chylomicron remnants (Michelle Evans, London, UK).

Session III New aspects in cholesterol research

The main theme of this session was the transport of cholesterol both intracellularly and between tissues. This formed the subject of the Laurens Van Deenen lecture delivered by **Christopher J. Fielding** (San Francisco, USA). He explained the roles of cholesterol in caveolae and in lipid “rafts”, particularly in relation to the regulation of signal transduction. Using the example of PDGF-mediated signalling, he described how PDGF phosphorylation was accompanied by the removal of a “puff” of cholesterol from caveolae to an extracellular cholesterol acceptor such as HDL. The role of the “scavenger” receptor SR-B1 in reverse cholesterol transport was highlighted by **Bernardo Trigatti** (Hamilton ON, Canada) who emphasised its importance in protecting against atherosclerosis. Other aspects of the relationship between caveolae, membrane cholesterol, and intracellular cholesterol trafficking were highlighted by **Elina Ikonen** (Helsinki, Finland). **Brian Knight** (London, UK) reviewed our current understanding of the role of ABC-A1 transporters in regulating cholesterol efflux. He also described some of his own interesting recent work which implicated PPAR α in the modulation of ABC-A1 expression and cholesterol absorption from the intestine. Invited oral communications were presented by **Saara Vainio** (Helsinki, Finland) on the relationship between cholesterol in membrane microdomains and insulin resistance, by **Suzanne Parkin** (London, UK) on lipids and chemokines as markers for atherosclerosis and by **Alicia Leiken-Frenkel** (Tel-Aviv, Israel) on the effects of a fatty acid – bile acid conjugate on cholesterol homeostasis.

Session IV Lipid oxidation, a key process in pathology or an epiphenomenon?

This session was inspired by the large amount of evidence suggesting that lipid oxidation is an important event in inflammatory disorders, including cardiovascular disease, but that recent intervention studies with antioxidants largely have shown no benefit in preventing mortality of patients with coronary heart disease. **Wendy Jessup** (Sydney NSW, Australia) provided an excellent review of the evidence leading up to the oxidation hypothesis of atherosclerosis. She demonstrated the presence of lipid and protein oxidation products in atherosclerotic plaque, but also that atherosclerotic plaques were not depleted of α -tocopherol although oxidation products of the vitamin are present. She concluded that two electron oxidants such as hypochlorite and peroxynitrite may play a key role in the oxidation process and that their actions may not be readily suppressed by α -tocopherol. **Kevin Moore** (London, UK) discussed the measurement of lipid oxidation *in vivo* and the analysis of isoprostanes in body fluids as the gold standard. He reported recent data from other laboratories showing that α -tocopherol did not reduce isoprostane formation in oral doses used in intervention studies. **Berndt Engelmann** (Munich, Germany) discussed the importance of phosphatidylethanolamines (PE) in the oxidation process and that despite the presence of significant amounts of polyunsaturated fatty acids the plasmalogen forms of PE provide

significant antioxidant protection against oxidation. Novel ideas about lipid oxidation by the artery wall were provided by **Victor Darley-Usmar** (Birmingham, AL USA). The role of nitric oxide and glutathione were discussed in terms of the adaptive responses when cells are exposed to oxidised lipoproteins. **Etsuo Niki** (Osaka, Japan) discussed the efficacy of specific antioxidant vitamins against different oxidative sources. He concluded that inhibition of oxidation must be a beneficial event, but that not all antioxidants are equally effective in this respect. Further contributions were made from selected oral presentations by **Maria Kadiiska** (Research Triangle Park NC, USA), **Michel Guichadant** (Villeurbanne, France) related to measurement of oxidation and its markers and by **Ryouta Maeba** (Teikyo, Japan) and **Alice Alessenko** (Moscow, Russia) on plasmalogens and lipid oxidation in Alzheimer's disease. The session was summed up by **Gordon Ferns** (Surrey, UK) followed by a round table discussion. The meeting had produced novel arguments which explained many of the contradictions in this research area and stimulated us to consider less simplistic approaches to this complex area.

The delegates and organisers all convey their thanks to the support given to the meeting by the Biochemical Society and all of our sponsors. We particularly missed the presence of Professor Giovanni Galli, Secretary of the Steering Committee of ICBL, who died earlier this year.

Richard Bruckdorfer

On behalf of the Organising Committee ICBL 2003

45th International Conference on the Bioscience of Lipids

FEBS Special Meeting

Cultural Centre of Ioannina, May 25-29 Ioannina Greece

Supported by IUBMB

The 45th ICBL will be held in Ioannina, Greece, on May 25-29, 2004. The city of Ioannina is located in the northwestern part of Greece and is the provisional capital of Epirus. The last decade the EU has made considerable efforts in supporting and developing this area of Greece since the improvement of this area may have an important impact on other underdeveloped neighboring areas of Balkan countries such as, Albania, Former Yugoslavian Republic of Macedonia, Serbia, etc. Today the city of Ioannina hosts one of the best Greek Universities, and in the same time, it represents a continually developing cultural center of Greece. One of the best ways to improve the scientific level in this region as well as that of neighboring areas, and to develop collaborations among scientists from these regions as well as from western and eastern European countries, is to organize high level internationally recognized meetings such as ICBL. Based on the above considerations, the ICBL Steering Committee decided to organize the 45th meeting in Ioannina. The expected attendance is about 250 participants, including both, experts in the field as well as young scientists. We have selected topics of current interest and our integrative approach is to create the possibility of an extended discussion both inside and outside the meeting room. An internationally recognized panel of invited speakers and the contribution of free communications will create an excellent opportunity to present the state-of-the-art research and to reach shared conclusions. We should point out that the 45th ICBL will be organized under the auspices of [FEBS](#), thus it will be considered as a FEBS special meeting. It is also important to note that the 45th ICBL will be supported by [IUBMB](#).

Scientific Programme

Topics:

1. Lipid metabolism and functional diversity

2. Biological activity of olive oil components
3. Pro-inflammatory lipid mediators
4. Molecular and genetic basis of lipoprotein metabolism
5. Hot topics (to be chosen on short notice as they come up)

The scientific programme will include the traditional LLM van Deenen lecture, lectures by invited speakers, oral communications selected from submitted abstracts and poster presentations. An outline of the programme is the follows:

Tuesday, May 25, 2004

Registration

The Laurens Van Deenen Lecture:

Sampath Parthasarathy (USA): **Prooxidants and antioxidants-the narrowing gap**

Wednesday, May 26, 2004

Lipid metabolism and functional diversity

I. *Plenary lectures*

1. William Dowhan (USA): **Lipids as determinants of membrane protein topology and conformation.**
2. Ben de Kruijff (The Netherlands): **Lipid-linked cell wall precursors as targets for antibiotics**
3. Masato Umeda (Japan): **Regulation of membrane lipid dynamics in cell polarization**
4. Michel Rohmer (France): **Lipids as carbohydrate derivatives: the overlooked methylerythritol phosphate pathway for isoprenoid biosynthesis and the formation of bacterial hopanoids**
5. Karel Wirtz (The Netherlands): **Phospholipid transfer proteins**

II. *Oral communications*

Thursday, May 27, 2004

Biological activity of olive oil components

I. *Plenary lectures*

1. Maria-Isabel Covas (Spain): **Bioavailability and biological effects of olive oil phenolic compounds in humans**
2. Donatella Caruso (Italy): **Olive oil phenols: antioxidant activity and beyond**
3. Constantinos Demopoulos (Greece): **Antiatherogenic effects of lipids from olive oil**
4. Parveen Yaqoob (UK): **Olive oil and immune function - a critical evaluation of the evidence**
5. Antonia Trichopoulou (Greece): **The role of dietary lipid in obesity and health**
6. Anthony Kafatos (Greece): **Olive oil for the prevention of chronic diseases**

II. *Oral communications*

III. *Posters*

Friday, May 28, 2004

Proinflammatory lipid mediators

I. *Plenary lectures*

1. Ewa Ninio (France): **Expression and function of lipid mediators in vascular wall**
2. Akira Tokumura (Japan): **Proinflammatory platelet activating factor-like phospholipids and their pathophysiological significance**
3. Eva Hurt-Camejo (Sweden): **Extracellular Phospholipase A2 enzymes expression and functions in the arterial wall**
4. Paola Patrignani (Italy): **Recent advances in the biology and pharmacology of COX-2**
5. Andreas Habenicht (Germany): **The 5-lipoxygenase cascade and atherogenesis**

6. Haralampos Moutsopoulos (Greece): Role of Coxsackie viruses in the pathogenesis of autoimmune disorders: Lessons from autoimmune epithelitis.

II. *Oral communications*

III. *Posters*

Saturday, May 29, 2004

Molecular and genetic basis of lipoprotein metabolism

I. *Plenary lectures*

1. Arnold von Eckardstein (Switzerland): **Regulation of HDL and reverse cholesterol transport**

2. John Chapman (France): **CETP: regulation of gene expression and implications for lipoprotein metabolism**

3. David Williams (USA): **SR-BI, an HDL receptor that determines systemic HDL levels and plasma membrane properties**

4. Paul Cullen (Germany): **Macrophage lipid metabolism and atherosclerosis**

II. *Oral communications*

III. *Closing ceremony and presentation of the ICBL 2005*

Conference Venue

The conference will be held in the Cultural Centre of Ioannina. It is located in the centre of the city and is only a short walk from almost all the hotels of the city.

Poster Awards

The poster Award Committee will select 3 outstanding posters judged for the scientific content and clarity of presentation for the poster Awards. The prizes will be presented during the Conference Dinner.

Travel Grants

Ten travel grants will be offered to students from Balkan and Eastern European countries. These travel grants will include free admittance to the conference and financial support for transportation and accommodation.

Details of the meeting can be seen on:

URL of 45th ICBL: <http://medlab.cs.uoi.gr/icbl>

FEBS-homepage: http://www.febs.unibe.ch/Activities/Advanced_Courses/Advc04.htm

IUBMB-homepage: <http://www.iubmb.unibe.ch/Workshops.htm>

ICBL-homepage: <http://www.icbl.unibe.ch/Meetings.htm>

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FUTURE MEETINGS
46th ICBL Ajaccio, Corsica, France

20 – 24th September 2005

Major topics

Lipids and gene expression
Reverse cholesterol transport and cellular trafficking
Membrane lipid domains
Phospholipases
Obesity, diabetes and energy metabolism

Organizing Committee

Catherine Calzada (Lyon)
Donatella Caruso (Milan)
Maurizio Crestani (Milan)
Emma De Fabiani (Milan)
Alexandre Fredenrich (Nice)
Marzia Galli-Kienle (Milan)
Paul Grimaldi (Nice)
Michel Lagarde (Lyon)

Invited Speakers

- Van Deenen Lecture :
 - * **A.A. Spector**, Iowa City, USA (*Fatty acids and derivatives in cell function*)
- Lipids and gene expression (I) :
 - * **D.B. Jump**, East Lansing, USA (*Gene regulation in response to PUFA*)
 - * **W. Wahli**, Lausanne, Switzerland (*PPARs and lipid homeostasis*)
- Lipids and gene expression (II) :
 - * **S. Kersten**, Wageningen, The Netherlands (*LXR in nutrigenomics*)
 - * **J.A. Gustafsson**, Huddinge, Sweden (*The role of LXR in the liver, adipocytes and nervous system*)
- Reverse cholesterol transport and cellular trafficking :
 - * **L. Calabresi**, Milan, Italy (*Pathophysiology of reverse cholesterol transport*)
 - * **T. Kobayashi**, Tokyo/Lyon, Japan/France (*Cholesterol trafficking and endosomal LBPA*)
- Membrane lipid domains :
 - * **W.B. Huttner**, Dresden, Germany (*Lipid microdomains and membrane curvature*)
 - * **D. Hoekstra**, Groningen, The Netherlands (*Role of sphingolipids in membrane dynamics*)
- Phospholipases :
 - * **J. Balsinde**, Valladolid, Spain (*Cross-talk between phospholipase A₂ isozymes*)
 - * **M. Breton-Douillon**, Toulouse, France (*Nuclear phospholipases*)
- Obesity, diabetes and energy metabolism (I) :
 - * **B. Spiegelman**, Boston, USA (*Role of transcription factors and coregulators in the control of obesity, diabetes and energy metabolism*)
 - * **K. Kadowaki**, Tokyo, Japan (*Adipocytokines and lipid metabolism*)
- Obesity, diabetes and energy metabolism (II) :
 - * **M.C. Sugden**, London, UK (*Skeleton muscle metabolic activity related to lipid metabolism*)
 - * **D.P. Kelly**, St Louis, USA (*Cardiac lipid metabolism in diabetes*)

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