

International Conference on the Bioscience of Lipids



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A FAREWELL FROM THE PRESIDENT

In my first address after having taken office in January 1998, I wrote in our Newsletter that “presidents come and presidents go, but the institution will remain”. Now my term as president will be over at the end of this year – time to go. I shall look back with gratitude; my duties brought me in contact with so many distinguished colleagues whose views I learnt to appreciate so much. They considerably eased my task to make decisions and to plan for the continuity and future of ICBL. The protocols of the lively debates in the Steering Committee give ample proof of this.

In the first three years we changed the constitution to allow for more lipid bioscience. This was manifested in change in name (from *International Conference on the Biochemistry of Lipids* to *International Conference on the Bioscience of Lipids*), and a practical change in conference format (introducing four-day conferences allowing for discussion of up to seven topics). Attendance figures of 200 to 300 scientists and students in most conferences give reassuring confirmation of these changes. Another important change involves a shortened tenure of service on the Steering Committee, with the aim of ensuring a combination of old hands and fresh pairs of eyes. Moreover, we have co-opted into the Steering Committee colleagues responsible for public relations in order to keep the lipid community up to date on our mission.

Our conferences have been held throughout the whole of Europe: from West (Dijon 1998) to East (Halle 2000), from North (Bergen 2001) to South (Ioannina 2004), and within (Davos 1998, Graz 2002, Oxford 2003). This year’s conference we will be in Ajaccio. Our attempt to find a venue in Argentina in honour of Professor Rodolfo Brenner, our long-standing representative from South-

America unfortunately had to be abandoned due to financial constraints. All these conferences have left lasting impressions, not least because of the diverse cultural experiences they offered.

We have the world's top lipid scientists present at our conferences and we promote young scientists to give lectures as well. This is a long-standing tradition of ICBL. Its tradition in general, reflections on present role and aspects of the future of ICBL have been documented in the Golden Jubilee Booklet, which was issued on the occasion of ICBL's 50th anniversary in Oxford 2003. A part of this future is secured already in the choice of ICBL venues for the next years: Pécs in 2006, Turku in 2007, Maastricht in 2008, Regensburg in 2009, and Bilbao in 2010.

I wish to express my deep gratitude to all colleagues who organized those beautiful ICBLs, to those who are in the process of organising the future ones, and, of course, to my colleagues in the Steering Committee for such a cordial work environment. My 'ICBL experience' has been a wonderful one. *Tempora mutantur et nos in illis* – this we have all witnessed in these past eight years of ICBL. Merely to grow older is not sufficient change, other changes continue to be necessary to guarantee an energetic and successful ICBL in the future.

Fritz Spener
President of ICBL

THE 45TH ICBL
Ioannina, Greece, 2004 May 25-29

“PREOLYMPICS ON THE BIOSCIENCE OF LIPIDS”

In the same year the Olympic Games were scheduled to return to the country of their roots ICBL also revisited Greece after a long period of absence. Indeed, the only previous ICBL to be convened in “Hellas” - to be exact the 13th ICBL - was organized by Professor C.J. Miras in Athens 1969) focussing on the structure and metabolism of glycolipids. Therefore, the ICBL Steering Committee was more than pleased when Professor A. Tselepis from the Ioannina University accepted the invitation for “taking care” of the 45th ICBL, in the same year the home University also celebrated its 40th birthday. In addition, the 45th ICBL was the first International Conference in Ioannina, as we were informed by the vice-dean of the University at the opening ceremony. As a last introductory comment this 45th ICBL was generously sponsored by FEBS, for this reason and according to “ICBL courtesy” announced as a “FEBS Special Meeting”.

Ioannina is the capital of Epirus and is depicted in local folk songs as “the city of legend and tradition” which excels in battle, commerce and arts. Although this northern part of Greece is less well known by the tourists, upon arrival the Conference participants and accompanying persons were immediately impressed and charmed by the beautiful and picturesque landscape, the view on lake Pamvotis and the surrounding mountains that still had snow-covered peaks. Ioannina is a small but pleasant town overlooked by the brooding remains of the old castle with strikingly many silvershops in the shopping centre, a real nightmare for the credit cards of the conference participants with an accompanying person.

On May 25th somewhat less than 200 lipidologists originating from 25 different countries assembled in the lecture hall “Vasilios Pyrsinellas” of the Cultural Centre of Ioannina for the opening ceremony. After the introductory speeches the “Laurens Van Deenen Lecture”, which has grown into an undeniable part of the scientific programme of an ICBL meeting since the introduction in

1995, was eloquently presented by Professor Sampath Parthasarathy entitled “Prooxidants and antioxidants - the narrowing gap” and dealing with the paradox of oxidative stress phenomena. After the lecture the audience was left with the open and perplexing question whether or not to start exercising, jogging, swimming, walking down and up hill etcetera. Anyway, most of the participants including myself were easily convinced to continue drinking red wine, the less strenuous but equally beneficial option – refute this if you can.

And then ... the next day, the “lipid marathon” could start. Fortunately everyone survived this new Olympic discipline well, being spared the unfortunate fate of Pheidipides in ancient Greek History who, in 490 BC, ran from Marathon to Athens to announce the Greek victory, under Miltiades, over the Persians, but who, after having brought his message, irreversibly collapsed. Probably insufficient red wine and olives in his diet!

The scientific programme included four symposia with as respective themes: (1) Lipid metabolism and functional diversity; (2) Biological activity of olive oil compounds; (3) Pro-inflammatory lipid mediators; (4) Molecular and genetic basis of lipoprotein metabolism. These topics were dealt with in 22 plenary lectures and 37 oral communications. In addition there was a well frequented poster area (not only for the excellent coffee and the Greek “really sweet” sweets generously offered by the conference organizer) where 87 poster presentations were on display. An extended report of the scientific programme of the 45th ICBL can be consulted in another contribution to this ICBL Newsletter.

For personal and sentimental reasons please allow me to refer specifically to the lecture by Professor Donatella Caruso from Milan during the symposium on “Biological activity of olive oil compounds” which was dedicated to the memory of the late Professor Giovanni Galli with his unstinting and passionate dedication to ICBL. Dear Donatella, I am sure that Giovanni “up there” has been watching and listening, being very proud of the excellent presentation by his scientific protégée and disciple.

As always this 45th ICBL was the occasion for inter-twining science with culture and friendship, one of ICBL’s main goals, as was evidenced from the bouquet of social events programmed for participants and accompanying persons. At the end of the official part of the opening ceremony, an unannounced performance by a dancing group of youngsters from the Hellenic Lyceum of Ioannina was a true advertisement for folklore Hellenic dancing. At the first notes of Theodorakis’ immortal song “Zorba the Greek” the audience spontaneously started clapping hands. At the end we were entranced by the little boy closing the dancers line, who was so enthusiastic that he did not want to leave the stage so that he nearly tumbled; a Greek tragedy narrowly averted! Later on a welcome reception in open air (thanks to the Mediterranean climate) was offered to the now ravenous lipidologists, as well as the first opportunity for the visitors to adapt to the Greek life style of dining out at 10 p.m.

On Wednesday morning the accompanying persons were taken on a guided tour of the lake and its picturesque island; a small rock bathed in “water and spirit”. Indeed in the late Byzantine era a notable monastic town developed on the island and the monasteries are really small, secluded architectural jewels from a bygone age, immersing the visitors in an oasis of “divine intoxication”. Nevertheless upon return of the party I felt some relief when realizing that my dear wife Isabelle had escaped from the tragic and cruel fate that the legendary Ali Pasha had reserved for Lady Frossini and seventeen of her companions. Ali Pasha built a country residence on Nisi and it is there

where, in 1822 after a ferocious and bloody conflict, he breathed his last in one of the cells of the monastery St Panteleimon.

On Wednesday evening we were invited to visit the Byzantine museum and an accompanying reception by the Mayor of Ioannina at Its Kale (southeast citadel of the Kastro and originally the location of the Seraglio of Ali Pasha which was unfortunately destroyed by a fire in 1870). The Kastro of Ioannina is undoubtedly the hub of the city and a walk via the traditional alleyways up to the castle is almost an excursion into the history of the town itself. The seven rooms of the Byzantium Museum exhibit “finds” from excavations (sculptures, coins, pottery) from the early Christian to the late post-Byzantine period, as well as icons and relics from the 16th to the 19th centuries. Also the “Treasury” is a “must” - a lovelier building could not have been found, in fact one of the most imposing buildings on the site - housing the Silverware Collections of Archbishops Spiridon and Ioannides. We were entertained by an ensemble of musicians playing original compositions of their father. An open air reception followed and guests had the opportunity to imbibe the most enchanting view from the citadel on the lake, the island and surrounding mountains; the twinkling lights of the small villages situated on the mountain slopes turned this social event into a most cheerful and memorable event. On that evening standing at the Tomb of Ali Pasha I perceived the Fetiye Mosque in front of me and the Church of Ayioi Anargyroi behind me; a beautiful example of cohabitation and tolerance, unfortunately not always practiced in human history or even in contemporary times.

In the footsteps of Herodotos and the Argonaut Jason Thursday afternoon was reserved for an unforgettable visit to the archeological site of Dodoni, in the past a famous religious and political centre. The ancient theatre is undoubtedly the greatest attraction of the Dodoni Sanctuary, one of the largest theatres in Greece with a capacity of some 17,000 spectators and one of the best known cultural monuments in the world. On the “skine” of the theatre when looking in the eyes of some ICBLians (not to mention Klaus Wahle) I noticed that they hardly could resist the temptation to give us renditions of parts of a Greek Tragedy by those notorious dramatists Sophokles, Aischylos or Euripides. A must during a guided tour of the Dodoni site self evidently includes a passage at Hieria Oikia with the “oracular oak-tree”. When consulting this oldest oracle in Greece about the future of our scientific community and according the interpretation of the prophecy by our President, ICBL was promised eternal life. Upon our return to Ioannina we were startled by a collision between two of the buses transporting the lipidologists’ cohort, fortunately causing only structural damage to the buses. The accident allowed the local chairman of the 45th ICBL - already nicknamed as “un être multiple” by the French participants - to demonstrate once more his organisational talents and skills. After less than half an hour a replacement bus arrived and the standing participants were whisked away to their respective hotels in Ioannina.

The location for the Conference Dinner on Friday was the luxurious “Hotel du Lac” as its name implies situated on the edge of Lake Pamvotis. The dinner was a real culinary highlight of Greek “cuisine”, during which the guests were entertained by that typical melancholic Greek music reminding me of the Greek singer, movie star and politician Melina Mercouri - although never on a Sunday! (inside joke for movie fans). During the traditional annual speech ICBL President Professor Fritz Spener once more referred to the intelligence of lipids, but this time going further by extrapolating to the “superintelligence” of the scientists studying these multifunctional biomolecules. On the “agenda” of the conference dinner, the celebration of three eminent lipidologists was programmed, honouring in the limelight in alphabetical order the Professors C. Demopoulos, V. Kapoulas (also scientific godfather of 45th ICBL chairman Professor A. Tselepis) and F. Paltauf, “all three laurelled” for their excellence in basic lipid research and science with, as

common denominator, their interest and achievements in the glycerylether phospholipids field. This new meritorious initiative may yet become a traditional part of an ICBL Conference. After dinner according to ICBL tradition the winners of the poster awards were to be proclaimed, this year by the new chairman of the poster evaluation committee, Professor Guenther Daum from Graz. By his subtle and with humour spiced presentation he proved to be a dignified successor of the former chairman Professor Klaus Wahle, although I was a little disappointed that Guenther for his “act” had not dressed in typical Styrian folkloristic tenue. Without the help of the Dodoni Oracle but after many hours of deliberation by the expert members of the poster award committee the following equally ranked winners were proclaimed:

Mansfeld, J., Dathe, K., Gebauer, S., and Ulbrich-Hofmann, R. (Department of Biochemistry/Biotechnology, Martin-Luther University Halle-Wittenberg, Germany): Cloning, expression, and characterization of a plant secretory phospholipase A₂.

Røst, T. H.¹, Gudbrandsen, O. A.¹, Tronstad, K. J.¹, Mellgren, G.², and Berge, R. K.¹ (¹Section of Medical Biochemistry, ²The Hormone Laboratory, Institute of Medicine, Haukeland University Hospital, Bergen, Norway): PPAR δ activation in relation to reduction of adipose tissue.

Coort, S.L.M.¹, Hasselbaink, D.M.², Koonen, D.P.Y.¹, Willems, J.¹, Van der Vusse, G.J.², Bonen, A.³, Glatz, J.F.C.¹, and Luiken, J.J.F.P.¹ (Depts. of ¹Molecular Genetics and ²Physiology, CARIM, Maastricht University, the Netherlands; ³Department of Human Biology and Nutritional Sciences, University of Guelph, Canada): Apparent insulin insensitivity of FAT/CD36-mediated long-chain fatty acid uptake by cardiac myocytes from obese Zucker rats

After the proclamation the face of one of the winners Professor Jan Glatz from Maastricht (The Netherlands) was really glowing like ET’s finger when being kissed by the two other “female” laureates. At the end of the ceremonial upon request of the ICBL President, the wine glasses were filled and raised to the now – according the oracle’s prophecy – eternal “Spirit of ICBL”.

Later on ... the “locals” metamorphized into talented Sirtaki dancers very soon joined by the other guests irresistibly attracted by the exciting Sirtaki rythm, but probably more as the result of the abundant Greek wine intake. In a sudden vision I thought to discern a future ICBL President among the dancers. The male dancers on their feet and the hand clapping females on their knees in exalted adoration was a true example of “female emancipation” (pure outside joke). Gradually, although not able to monitor in situ the increasing levels of Paf and Paf-like phospholipids I sensed the rising oxidative stress. During the dancing party I am convinced that Professor Yusuke Seyama, our official ICBL photographer and “our ICBL man in Tokyo” succeeded in beating the Olympic record of taking pictures. At the end of this appetizing and agreeable event I could not help thinking, without being disrespectful towards our honourable hosts, about that amusing movie “My Big Fat Greek Wedding”.

The last afternoon of the conference as an apotheosis of the social programme our Greek hosts guided us to the Zagori villages, the land beyond the mountains. On our way to the Zagori villages and also on the journey back we twice passed the statue of the “Women of Pindos”, a symbol of the outrageous excesses of Human Madness, making me proud to be a member of the multicultural and tolerant ICBL community. No one regretted the long (although it seemed much longer because of the rainy conditions) walk from the village to the Vikos gorge. The spectacular view along the deep ravine with the steep mountain slopes and the sparse vegetation was really impressive and

brehtaking but definitely not suited for people suffering from Hitchcock's vertigo. Also the visit to the stone bridges of Epirus was a memorable experience. According to our guide there are three types of bridges: one-arched and two-arched bridges, but I forgot about the third type; enlightened by "lipid intelligence" my wild guess is a three-arched bridge. These interesting architectural constructions built in the 19th century were sponsored by donations from rich emigrants on their return but also by gifts from all villagers, Christians and Moslems alike. Despite the damp weather nearly all of us went for a walk across the single-span "Kokori" Bridge, one of the most notable and best known stone built bridges in the Balkans. To cut a long story short it was a most wonderful excursion and upon our return to Ioannina we could not stop going on "singing in the rain".

Having produced this annual ICBL Newsletter contribution for about fifteen years I must admit that each year it becomes more and more difficult to compliment the organizers in original superlatives. Nevertheless once more I will take my chance. As we learned from Greek Mythology ancient Greeks believed that Delphi was the geographical centre of the world, where earth touched the divine. Delphi was the meeting point of two eagles dispatched by Zeus in opposite directions to indicate the navel of the earth. On repeating this experiment in 2004 I am convinced that the two eagles should have met in Ioannina, that year the "omphalos" of international lipid bioscience. Therefore, dearest Alexandros and self-evidently all your colleagues, co-workers in other words everyone who has been engaged in and contributed to the realisation and success of this 45th ICBL, the sincere congratulations and thankfulness from the ICBL Steering Committee and all participants of this meeting. You really have succeeded in achieving a "13th Herakles' Labor" "maxima cum laude".

On Saturday morning according to ICBL rites the closing ceremony was also the moment to introduce the next ICBL. As outlined by old ICBL warrior Professor M. Lagarde the 46th ICBL will be a Franco-Italian "venture" jointly organised by Professors M. Crestani (Milano), P. Grimaldi (Nice) and Michel Lagarde (Lyon) himself with a somewhat symbolic venue, Ajaccio on the Island of Corsica, from 20th till 24th September 2005. His convincing and enthusiast exposé on the scientific programme, the accompanying social events and the natural beauty of the surroundings needs no further advertisement. Some of us are already dreaming about meeting the incarnation of Colomba, the attractive and charming heroine in the famous novel by Prosper Mérimée from which we also learned about the Corsican code of honour.

The Organizers and the ICBL Steering Committee are looking forward to meet you all at the beginning of autumn 2005 at the occasion of the 46th ICBL.

Ciao !

A la prochaine !

Your humble ICBL notulant
Albert Lagrou
President ICBL 1990-1997

45th International Conference on the Bioscience of Lipids (ICBL)

FEBS Special Meeting
May 25-29 Ioannina Greece
Supported by IUBMB

Scientific Report

The scientific programme of the 45th ICBL started on the evening of May 25, 2004 with the 8th L.L.M. van Deenen Lecture, whereas on the subsequent four days, 4 symposia were arranged covering the following topics of the bioscience of Lipids:

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

The meeting included twenty-two (22) plenary lectures, thirty-four (34) oral communications and eighty-seven (87) posters. Two hundred and seven (207) participants attended the 45th ICBL. Among them, ninety-nine (99) were students (postgraduate or postdoctoral). Sixteen (16) travel grants were given to students from Balkan and eastern countries whereas 3 poster awards were given to the best 3 posters presented in the meeting (Appendix I). The abstracts of the meeting were published in *Chemistry and Physics of Lipids* (CPL, 2004, 130(1), 1-81).

The final impression of all participants was that the 45th ICBL was a successful meeting. Participants had the chance to exchange ideas and to discuss their specific interests in lipid research. The large number of students who participated in the meeting and their enthusiastic participation in the various sessions as well as in poster presentations, make the organizers to strongly believe that the 45th ICBL was an excellent occasion for establishment of future collaborations among participants and it gave the opportunity to further strengthen and broaden competent lipid research in European countries and in Greece and to fertilize neighbouring countries (Balkan and eastern countries) in this respect.

The **8th L.L.M. van Deenen Lecture** was given by **Sampath Parthasarathy** (New Orleans, LA, USA). The title of his lecture was "The Oxidation Paradox in Atherosclerosis: The narrowing gap between pro- and anti-oxidants". Prof. Parthasarathy proposed a novel "tap and drain" hypothesis to explain the actions of antioxidants and physical activity in atherogenesis. He presented new data suggesting that an early or sustained oxidative stress would keep the tissue antioxidant enzymes at high levels and thus would limit further oxidative damage. In this regard, the anti-atherogenic effects of exercise, PUFA and estrogens might depend on their ability to induce an oxidative stress and maintain high levels of tissue (arterial) antioxidant defence.

Topic 1: Lipid Metabolism and Functional Diversity

The session was introduced by **William Dowhan** (Houston, Tx, USA) who reported that phospholipids can act as molecular chaperones in the folding of proteins. He showed that particularly sensitive to membrane lipid environment are highly flexible integral solute transport proteins such as lactose (LacY), phenylalanine (PheP), and gamma-aminobutyric acid (GabP) permeases of *E. coli*. These proteins, assembled in mutants lacking naturally present phosphatidylethanolamine, adopt an inverted topology for several of their transmembrane domains relative to the topology observed in normal membranes and lose

active transport function. Normal topology and active transport function can be restored *in vivo* by induction of phosphatidylethanolamine synthesis. **Ben de Kruijff** (Utrecht, The Netherlands) discussed the molecular mechanism by which nisin kills bacterial cells. He showed that nisin exhibits a dual action. It binds to lipid II and creates a pore in the membrane, thereby killing the cells by poration of the membrane. In addition, it sequesters lipid II thereby blocking cell wall synthesis. This dual action might be the reason why resistance to nisin is difficult to acquire. **Masato Umeda** (Kyoto, Japan), reported that localized changes in lipid asymmetry and composition (exposure of the membrane phospholipid, PE, on the surface of the cleavage furrow membrane), resulted in the formation of a unique lipid domain at the cleavage furrow which may play a role in recruiting the functional molecules that are involved in achieving successful cell division. Among these molecules, a membrane protein, designated as Ros3p, was identified as a regulator of transbilayer movement of PE across the yeast plasma membrane. Ros3p is involved in both the regulation of phospholipid movement and the actin organization in yeast as well as in *Drosophila* and mammalian cells. **Michel Rohmer** (Strasbourg, France) reported the alternative methylerythritol phosphate pathway, for isoprenoid biosynthesis which is present in most bacteria, in green algae and in the chloroplasts of the other phototrophic organisms (including higher plants). According to this pathway, isoprenoids and bacterial C₃₅ hopanoids are directly derived from D-glucose and may be thus considered as carbohydrate derivatives. **Karel Wirtz** (Utrecht, The Netherlands) discussed his work on the Phosphatidylinositol transfer proteins (PI-TP), which consist of the isoforms PI-TPalpha and PI-TPbeta. Both proteins act as carriers of phospholipids between membranes *in vitro* with a distinct preference for phosphatidylinositol (PI) over phosphatidylcholine (PC). Both PI-TP isoforms are substrates for protein kinase C. PI-TPalpha activates a phospholipase A₂ that hydrolyzes PI to lysoPI and arachidonic acid. Arachidonic acid metabolites act as mitogens resulting in an increased rate of cell proliferation. PI-TPbeta has the capacity to rapidly re-synthesize sphingomyelin from ceramide produced at the cell surface. He concluded that both proteins are essential for cell function as PI-TPalpha knock-out mice die within two weeks after birth whereas PI-TPbeta deficiency is lethal for embryonic stem cells.

Topic 2: Biological Activity of Olive Oil Components

The session was inspired by the large amount of evidence suggesting that several olive oil components have beneficial properties *in vivo*. **Maria-Isabel Covas** (Barcelona, Spain) described the bioavailability of hydroxytyrosol (HT) and Tyrosol (T) after ingestion of moderate doses of olive oil. Both phenolic compounds are absorbed in a dose-dependent manner and are increased in plasma and in urine. The estimated half-life elimination in plasma and urine is around 2.5 h and 8 h, respectively. Around 98% of T and HT appear to be present in plasma in conjugated forms, mainly glucuronoconjugates, and tyrosol is better than hydroxytyrosol as a marker in biological fluids of the type of olive oil ingested. Concerning olive oil phenolics' biological activity *in vivo*, in strictly controlled conditions a protective effect of olive oil on LDL oxidation is observed which is related to the phenolic content of the olive oil administered. **Donatella Caruso** (Milano, Italy) performed a lecture dedicated to the memory of Professor Giovanni Galli. She discussed her recent studies on the antiatherogenic effects of olive oil catechols oleuropein aglycone (OleA) and hydroxytyrosol (HT). HT induces a concentration-dependent inhibition on phosphodiesterase-5 activity thus suggesting that it can modulate cell adhesion and smooth

muscle cell proliferation, relaxation and migration. HT also induces a downregulation of the expression of VCAM-1, ICAM-1 in HUVEC, indicating a protective effect of this compound against inflammatory events. These data suggest that olive oil phenols are capable to regulate the expression of proinflammatory/proatherogenic genes. **Constantinos Demopoulos** (Athens, Greece) proposed a mechanism by which Platelet-Activating Factor (PAF), may induce the initiation and propagation of atherosclerosis, highlighting the significance of PAF and PAF-like lipids during the early stages of atherosclerosis. He also reported that Mediterranean foods contain a significant number of lipid-like components with anti-PAF action, and consumption of PAF antagonists from Mediterranean foods inhibits atherogenesis *in vivo*, thus suggesting a new biochemical approach to the beneficial effects of the Mediterranean diet in cardiovascular disease. **Parveen Yaqoob** (Reading, UK) discussed the effects of dietary fats, especially olive oil, on a range of *ex vivo* immune responses in animals, in comparison to the effects of a monounsaturated fat (MUFA)-enriched diet in humans. She concluded that the relative lack of effect of olive oil on immune function in humans contrasts with results obtained using laboratory animals. The lack of a clear effect of MUFA may be attributable to the higher level of monounsaturated fat used in the animal studies compared to humans. **Nikolaos Baibas** (Athens, Greece) reviewed the results of recent clinical trials on the role of dietary lipid in obesity and health. He pointed out that the rise in obesity had reached epidemic proportions and it is primarily a disorder of energy balance, rather than a consequence of “fat” intake. He also noticed that consumption of olive oil in conjunction with vegetables can convey a substantial degree of protection against a wide range of chronic diseases. He concluded that the Mediterranean diet could offer a healthy alternative approach to low animal fat diet. **Anthony Kafatos** (Iraklion, Crete, Greece) presented the results of several studies which demonstrate significant improvements in biomarkers for cardiovascular disease in subjects used to high olive oil diets (Southern Europeans) or transferred to such diets in the short term (Northern Europeans) He presented also novel findings with respect to potential mechanisms by which diets high in monounsaturated fatty acids can reduce population risk of cardiovascular diseases and cancer and concluded that there is sufficient evidence of the beneficial protective health effects to recommend diets with olive oil as the principal source of fats.

Topic 3: Proinflammatory Lipid Mediators

The session was introduced by **Ewa Ninio** (Paris, France) who presented her recent results on the expression of PAF-receptor (PAFR) and PAF-acetylhydrolase (PAFAH) in the vascular wall and discussed the experimental data supporting both the pro- and anti-atherogenic roles of PAFAH. She noticed that the gene expression studies through PAFR, as well as the large genetic studies concerning the most common polymorphisms of both PAFR and PAFAH genes could help to demonstrate whether PAFAH is causative or not in atherosclerosis. **Akira Tokumura** (Tokushima, Japan) discussed the possible pathophysiological significance in inflammatory diseases and atherogenesis, of PAF and PAF-like phospholipids as well as their bioactive metabolites, lysophosphatidylcholine (LPC), lysoPAF, acyl lysophosphatidic acid (LPA), alkyl LPA and LPA analogs having an *sn*-2-short chain acyl group. He also emphasized the role of the secretory lysophospholipase D purified from human plasma in the metabolism of the above phospholipids. **Eva Hurt-Camejo** (Gothenburg, Sweden) presented recent data on the existence of the secretory phospholipase A₂, Type V (sPLA₂-Type V) in atherosclerotic lesions. She pointed out that sPLA₂-V is present in atherosclerotic lesions and it expresses

hydrolytic activity towards apoB-containing lipoproteins which is higher than that of sPLA₂-IIA. She concluded that the above results support the presence and potential involvement of secretory phospholipases in atherosclerosis. **Paola Patrignani** (Chieti, Italy), discussed the recent data on the selective COX-2 inhibitors rofecoxib and celecoxib for the treatment of rheumatoid arthritis, osteoarthritis and for relief of acute pain as well as on the newly developed selective COX-2 inhibitors with different COX-1/COX-2 selectivity and pharmacokinetic features. She discussed the possible critical role of COX-2 expression in cancer and suggested that selective COX-2 inhibitors may represent novel chemopreventive tools. Finally, she highlighted the connections between COX-2 and the endogenous cannabinoid system showing that COX-2 catalyzes the oxygenation of arachidonylethanolamide (anandamide, AEA) and 2-arachidonylglycerol (2-AG) which are novel lipids structurally related to the prostaglandins. **Andreas Habenicht** (Jena, Germany) presented new data on the role of the 5-Lipoxygenase (5-LO) cascade in atherosclerosis in mice and men. He demonstrated that the 5-LO, the 5-LO activating protein (FLAP), as well as leukotriene (LT) receptors (LT-Rs) are abundantly expressed in arterial walls of patients afflicted with various lesion stages of atherosclerosis of the aorta and of coronary and carotid arteries. The number of 5-LO expressing cells markedly increases in advanced lesions. He showed results from microarray expression analyses which demonstrate that LTs trigger complex gene activation programs in cultured endothelial cells and monocytes. **Haralampos Moutsopoulos** (Athens, Greece), proposed a new working model on the role of coxsackieviruses in the pathogenesis of Sjögren's syndrome: According to this model, the virus remains latent following infection in genetically predisposed individuals. After stimulation through hormonal, environmental and stress related factors the virus becomes active and participates in the stimulation of the epithelial cells thus leading to the autoimmune response and tissue damage.

Topic 4: Molecular and Genetic Basis of Lipoprotein Metabolism

The main theme of this session was the mechanisms involved in reverse cholesterol transport (RCT). **Arnold von Eckardstein** (Zurich, Switzerland) discussed the potential role of HDLs in RCT. He noticed that several inborn errors of metabolism as well as genetic animal models are characterized by both elevated HDL-C and increased rather than decreased cardiovascular risk. These findings suggest that the mechanism of HDL modification rather than a sole increase in HDL-C should determine the efficacy of anti-atherosclerotic drug therapy. **Maryse Guerin** (Paris, France) discussed the role of the cholesteryl ester transfer protein (CETP) in RCT, as well as in the intravascular remodelling and recycling of HDL particles especially in dyslipidemic states. She reported that in dyslipidemic states the CETP activity is elevated and contributes significantly to the cholesterol burden in atherogenic apoB-containing lipoproteins. Furthermore, she discussed the single nucleotide polymorphisms of the CETP gene as well as the current knowledge concerning the mechanisms that control regulation of CETP gene expression. Among them, the Sp1 and Sp3, the SREBP-1a, 2 and Ying-Yang-1 (YY1) transcription factors the orphan nuclear receptor LRH-1, and the retinoic acid receptor response element seem to play important roles. **David Williams** (Stony Brook, New York, USA) reported that scavenger receptor BI (SR-BI) is the major route for delivery of HDL cholesterol esters (CE) to the liver and steroidogenic tissues in rodents and appears to be a major route for cholesterol delivery to human steroidogenic cells. In addition, SR-BI stimulates the bi-directional flux of free cholesterol (FC) between cultured cells and lipoproteins, therefore, SR-BI participates in both ends of the reverse cholesterol transport pathway: Additionally,

he discussed the mechanism by which SR-BI delivers CE to cells and further showed that SR-BI enhances the hydrolysis of HDL CE by neutral CE hydrolases suggesting that SR-BI delivers CE to a hydrolytic pathway. **Paul Cullen** (Muenster, Germany), presented recent data on the factors that play important roles in the cholesterol metabolism in macrophages. Part of the excess cholesterol in macrophages is removed by interaction with carrier particles such as HDL, and part appears to be directly excreted, perhaps in the form of apolipoprotein E (apoE)-containing lipoproteins. The ATP binding-cassette transporter (ABC) proteins appear to play an important role in both processes. Finally, important role in the cholesterol transport within the macrophage play an ADP-ribosylation factor-like (ARL) protein which may be involved in this process interacting with ABCA1.

Alexandros Tselepis,

On behalf of the Organizing committee of the 45th ICBL

46th International Conference on the Bioscience of Lipids
September 20-24, 2005
Ajaccio, Corsica



With the support of the Lipid Group (GERLI) of the French Biochemical Society (SFBBM) and the Italian Society of Atherosclerosis

20 – 24th September 2005

The 46th ICBL is the first one to be co-organized by two countries, France and Italy. It is then of relevance to have it in Ajaccio, as Corsica belonged to Genova for five centuries before becoming French in 1768. Still, the Corsican language is close to the one used in medieval Tuscany. The venue of the Conference at the end of September is certainly propitious to take the full benefit of a pleasant weather out of the summer crowd.

The four-day long Conference will be organized according to the tradition of ICBL and will include seven half-day scientific sessions and one half-day for social events. The scientific programme will consist of balanced invited lectures and selected oral communications from abstracts, and ample time for poster exhibition.

We look forward to welcoming you in Ajaccio.

Conference Chairs:

M. Crestani (Milan)
P. Grimaldi (Nice)
M. Lagarde (Lyon).

Organizing Committee

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

Scientific Programme

Tuesday Sept 20th

- Registration from 16:00
- Van Deenen Lecture : **A.A. Spector**, Iowa City, USA (*Fatty acids and derivatives in cell function*)
- Giovanni Galli Special Lecture: **A. Catapano**, Milano, Italy (*Plasma Lipoproteins and Endothelial function: from gene expression to biological relevance*)

Wednesday Sept 21st

- **Lipids and gene expression I (9:00 to 13:00)**
 - * **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 (15:00 to 19:00)**
 - * **S. Kersten**, Wageningen, The Netherlands (*LXR in nutrigenomics*)
 - * **J.A. Gustafsson**, Huddinge, Sweden (*The role of LXR in the liver, adipocytes and nervous system*)

Thursday Sept 22nd

- **Reverse cholesterol transport and cellular trafficking (9:00 to 13:00)**
 - * **L. Calabresi**, Milan, Italy (*Pathophysiology of reverse cholesterol transport*)
 - * **T. Kobayashi**, Tokyo/Lyon, Japan/France (*Cholesterol trafficking and endosomal LBPA*)

Friday Sept 23rd

- **Membrane lipid domains (9:00 to 13:00)**
 - * **W.B. Huttner**, Dresden, Germany (*Lipid microdomains and membrane curvature*)
 - * **D. Hoekstra**, Groningen, The Netherlands (*Role of sphingolipids in membrane dynamics*)
- **Phospholipases (15:00 to 19:00)**
 - * **J. Balsinde**, Valladolid, Spain (*Cross-talk between phospholipase A₂ isozymes*)
 - * **M. Breton-Douillon**, Toulouse, France (*Nuclear phospholipases*)

Saturday Sept 24th

- **Obesity, diabetes, and energy metabolism I (9:00 to 13:00)**
 - * **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 (15:00 to 19:00)**
 - * **M.C. Sugden**, London, UK (*Skeleton muscle metabolic activity related to lipid metabolism*)
 - * **D.P. Kelly**, St Louis, USA (*Cardiac lipid metabolism in diabetes*)

Important Dates

May 1st

- Deadline for Abstract Submission
- Deadline for early Conference Registration (reduced fee)
- Deadline for Conference Registration
- Deadline for Hotel Reservation

September 20th -24th

- Conference

For details on the meeting

URL of 46th ICBL: <http://www.unice.fr/biochimie/icbl/>

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

Abstract submission by e-mail to:

ICBL2005@unimi.it Scientific Secretary of 46th ICBL 2005 – c/o Miss Elda Desiderio Pinto, Dipartimento di Scienze Farmacologiche, Università degli Studi di Milano, via Balzaretti 9, 20133 MILANO, ITALY.

FUTURE MEETINGS

47th ICBL Pécs, Hungary

September 5-9, 2006

(followed by a one day long ILPS course after the ICBL)

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Zsolt Török	János Szöllősi
Gabor Balogh	Zoltan Kota
Gyöző Garab	

Scientific Committee

Sandor Damjanovich., Debrecen, Hungary	Norman Salem, NIH, USA
John Harwood, Cardiff, UK	Gerd Schmitz, Regensburg, Germany
Bart Staels, Lille, France	Kai Simons, Dresden, Germany
Yasuyuki Igarashi, Sapporo, Japan	Gerrit van Meer, Utrecht, Netherlands
Martijn Katan, Wageningen, Holland	Jean Vance

Conference Topics

Metabolism and function of lipids in the brain

Sphingolipids

Lipids and Stress

Membrane microdomains: lipid rafts and caveolae

Gene regulation by nucleus-targeted lipid signaling system

Lipidomics

What are healthy lipids?

Hot topics to be chosen on short notice as they come up

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