

International Conference on the Bioscience of Lipids



STEERING COMMITTEE

President

M. Lagarde

Vice President

G. Daum

Secretary

M. Galli Kienle

Ordinary Members

M. Crestani, A. Tselepis, L. Vigh

Advisory Members

S. Cockroft, A. Garton, J.F.C. Glatz, P. Grimaldi, F. Spener, F. Staat

Corresponding Members

D. de Mendoza, W. Dowhan, Y. Igarashi, W. Jessup, D.E. Vance

PR Officier

P. Ott

Editor

MARZIA GALLI KIENLE

Dpt. of Experimental Medicine

Via Cadore 48

20052 Monza – Italy

NEWSLETTER 2008

The 48 th ICBL	pg. 1- 3
The 48 th ICBL	pg. 3- 6
Scientific Report, 48 th ICBL, Turku, Finland	pg. 6-8
49 th ICBL, Maastricht, Tne NetherlandsFinland	pg. 9-11
50 th ICBL, Regensburg, Germany	pg. 11

THE 48TH ICBL

Turku, Finland, 2007 September 4-8

“The capital of the Swedish Grand Duchy of Finland”

It was for the first time that ICBL took place in Finland, whereas Denmark, Norway and Sweden, the three other Scandinavian countries, hosted ICBL five times since 1963. Some might argue against that first sentence, because Finland is certainly the least Scandinavian of the northern European countries, as the Vikings are not the people's ancestors. This can easily be guessed from the Finnish language with roots from Estonia and Hungary, being so different from the Swedish, although Sweden has been very close to Finland for centuries.

Turku was founded by the Swedish in the 13th century and called Åbo (the Swedish name for Turku), and still has the largest Finland-Swedish population in the country. Under Swedish sovereignty, Turku was the capital and biggest town of Finland until the country was ceded in 1809 to Russia which relocated the capital to Helsinki in 1812.

As a symbol of the country's first university called "Royal Academy of Turku", renamed the "Imperial Academy of Turku" in 1809, and founded by the Queen Christina of Sweden in 1640, ICBL is proud to have acknowledged its first Finland Conference in Turku.

In 1918, the Åbo Akademi University has been founded as the oldest and the only Swedish language university out of three in Turku. This was the venue of the Conference, just on the top of a small hill by the river Aura, very close to the Turku Cathedral, an originally 13th century building majestically planted in the middle of its square that the ICBL attendees crossed every morning and evening coming from and going back to their hotel.

The Conference started on Tuesday 4th evening with several introductory speeches from the Chairman of the meeting, Professor Peter Slotte, the Dean of the Faculty of Mathematics and Natural Sciences, and the President of ICBL. The traditional Van Deenen Lecture was then delivered by Joachim Seelig from Basel, followed by a friendly on-site get-together party, made easy by good food and wines!

Wednesday 5th was a full-day meeting, ended by a memorable visit of the museum sailing ship Suomen Joutsen owned by the City of Turku. Previous to the visit, a welcome speech was given from the upper deck by the Deputy Mayor of Turku, in which she proudly drew the main features of the ship relating to the history of the city. Again a magnificent buffet was offered, and the drinks largely contributed in making a friendly atmosphere while the attendants visited the ship on their own.

Friday 7th afternoon was the masterpiece of the Conference social programme, starting with a visit of Turku Castle, the largest Finnish medieval building sitting in the western part of the city by the river Aura. This quite popular and visited place has nowadays large rooms devoted to municipal functions.

The ICBL attendees were distributed into several groups for an interesting and relevant visit guided by young students in medieval dress. After one or two-hour exercise from one floor to another, sometimes through narrow staircases, a sumptuous buffet with beverages was served for an enjoyable mid-afternoon.

Buses then transported us to Naantali, a small city by the sea located at 15 km west of Turku and next to the archipelago. A free walk on the harbour quays by an incredible sunny afternoon allowed everybody to understand why the place is considered as one of the most popular tourist centre of the country and also the second richest city of Finland, based on taxes paid per capita. The proximal water sea with multiple woody islands nearby, enlightened by a sunny Nordic September, gave us a real atmosphere of vacation.

A concert by the Symphony Orchestra of Åbo Akademi University was performed at the Naantali Convent Church on the top of the hill. Apart from a concerto for flute and harp from Mozart, the concert was devoted to Jean Sibelius, the famous Finnish composer, with three of the eight movements of his Pelléas et Mélisande orchestra suite. The concert was of great quality and acknowledged accordingly by the audience which insisted asking for an encore until obtaining satisfaction.

The Conference Dinner followed in a vast restaurant of the village with tables surrounding an impressive buffet, and with a dominating stage for speeches, fortunately occupied by a piano and a bright pianist.

During the course of the Dinner, the Chairman of the ICBL Poster Award Jury, Professor Guenther Daum, and Peter Slotte, the Chairman of the Conference, presented the awardees. This ceremony was preceded by explanations from Professor Daum on how to properly make a scientific poster, and especially win the prize! These time-consuming explanations are really helpful for future candidates, and have the main interest of maintaining the suspense in the audience. Finally, the names of the awardees were given and each winner was strongly celebrated.

Then the President of ICBL delivered his speech in which he chose to make a full of imagery comment on every talks from invited speakers as a way of evaluating those talks that were the only ones not

ranked for a prize. This humoristic review was ended by the key toast dedicated to “The Spirit of ICBL”.

At precisely eleven o’clock, everybody left having already in mind the full-day meeting planned for the day after. It was without counting with Professor Yasuyuki Igarashi who jumped on the stage asking for the applause from all for the excellent performance of the pianist during the evening.

In addition to those social events for all participants, the accompanying persons had their own programme for two full days.

The first day was devoted to a visit of the Cathedral of Turku, the seat of the bishop of Turku since the 13th century. Originally built out of wood, the cathedral was considerably extended using stone during the next two centuries. This excursion was followed by a visit to Aboa Vetus & Ars Nova, the archaeological and contemporary art museums. The visitors focused on the former for an overview of the middle age on-site artefacts discovered on the occasion of the building construction. The day ended by walking through the Luostarinmäki handicrafts museum, an open air museum consisting of 18 blocks of buildings from the pre-industrial era, allowing people to get a touch of the Finnish life in the only old area which survived the great fire of Turku in 1827.

The second day of visit was devoted to the headlight of this part of Finland, the Turku archipelago, the largest in the world, estimated to more than 20,000 islands. The group focused on the big Blåmusllan Nature Centre as representative of the livelihood in the archipelago, with a great variety of bird species, including the emblematic white-tailed eagle. This was certainly the most impressive and memorable time in the programme.

Saturday 8th was the last day of the Conference. It ended by remittance of the two best oral communication awards to young scientists, as sponsored by Biochimica et Biophysica Acta Molecular and Cellular Biology of Lipids, and Progress in Lipid Research. Then closing remarks were made in the hope of seeing each other again at the next ICBL on August 2008 in Maastricht, The Netherlands.

With my very best wishes.

Michel Lagarde

President of ICBL

ICBL 2007 Poster Awards

“Poster Mummins meet in Naantali”

A pleasant afternoon sightseeing tour of ICBL participants to the Castle of Turku ended in the small town of Naantali. This seaside resort is not only known as the place where the Finish President has her summer residence, but also for its Mummin-Land, the home of famous comic characters which are loved by children (and adults) in Finland and all over the world. After a gorgeous concert in the church of Naantali listening to works of Sibelius and Mozart, the Conference Dinner took place in the Vanha Kalvohuone Hotel in Naantali. As it has become a tradition of the ICBL, the three winners of the ICBL Poster Award were named at this occasion. Guenther Daum, the President Elect of the ICBL and Chairman of the Poster Award Jury, first thanked all ICBL attendants, especially the students who contributed so lively to the Poster sessions at this conference. According to the rules of ICBL, only young scientist (aged below 40) qualified for Poster Awards. Of course, contributions from laboratories of Poster Award Jury members were not considered.

Members of the ICBL 2007 Poster Award Jury were: Guenther Daum (chairman): Graz University of Technology, Austria; Wendy Jessup: University of New South Wales, Sydney, Australia; Anna Seelig: Biocenter, Basel, Switzerland; Yasuyuki Igarashi: Hokkaido University, Sapporo, Japan; Laszlo Vigh: Hungarian Academy of Sciences, Szeged, Hungary; Paavo Kinnunen: University of Helsinki, Finland; and Peter Mattjus: Academy of Finland, Turku, Finland. Among the 154 posters which were presented at the ICBL 2007 in Turku, 63 posters qualified for the Poster Award election following the above mentioned rules. In a first round of pre-selection, 17 poster contributions were nominated based on the outstanding quality of the abstracts. These pre-selected posters were more closely inspected by the members of the Poster Award Jury at the conference location. Criteria at this point were of course relevance of the topic, originality of the subject, but also the quality of the presentation and the visual appearance.

In his Poster Award presentation, Guenther Daum pointed out the outstanding contributions from Finnish laboratories to the Poster sessions. Among the 63 abstracts from 23 countries that had qualified for the Award 15 were from Finland, followed by Germany (9) and Spain (7). It is well known that research in Finland is performed at an exceptionally high international standard. Thus, Guenther Daum pointed out in his speech, that it was not surprising at all to see so many excellent posters from Finland. Although Finnish people are known to be calm, quiet, sometimes even a bit shy, one of their characteristics is efficiency. There is a word in the Finnish language which is "sisu" that describes very well what is meant. "Sisu" stands for endurance, going beyond frontiers and completion of tasks. Almost logically, one of the three equal Poster Awards went to a Finnish laboratory.

Finally, Guenther Daum named the winners of the ICBL 2007 Poster Awards, and Peter Slotte, the chairman of the organizing committee, presented the Diplomas and, not to forget, the award money to the successful students. The abstracts of the winning posters are shown below. The ICBL community is proud of these outstanding presentations, congratulates the winners and hopes that also in future meetings young attendants will be as active as at the 2007 ICBL in Turku.

Winners of the 2007 ICBL Poster Awards (in the order of poster numbers; presenting author underlined) were:

PO 102

OSBP-related protein 10 (ORP10), a novel regulator of lipid homeostasis

Julia Perttilä, Krista Merikanto, Jussi Naukkarinen, Nicolas Martin, Vesa M Olkkonen, Leena Peltonen
Department of Molecular Medicine, National Public Health Institute, Helsinki, Finland

The oxysterol-binding-protein (OSBP)-related proteins (ORPs) are conserved from yeast to humans and are implicated in a number of vital biological functions. The role of different ORP genes and corresponding proteins in human lipid metabolism has so far not been addressed. We used genetics to study the potential role of ORP genes in regulation of human serum lipids. We tested linkage of serum lipid levels to 3 ORP genes (ORP2, ORP9 and ORP10) by genotyping 25 HapMap SNPs tagging their allelic diversity in 92 Finnish dyslipidemia families (ascertained for low-HDL or FCHL) with a total of 1070 individuals with well characterized serum lipid profiles. Only one of the tested ORP genes, ORP10, provided evidence for linkage both when using 5% extreme lipid levels as affected in the dichotomized linkage analysis and in the quantitative analysis using MERLIN software. Multiple SNPs of the ORP10 gene revealed evidence for linkage to the HDL and triglyceride levels (high triglycerides LOD_{max} = 2.405 with SNP rs9853939, quantitative linkage to HDL levels LOD = 2.01 P = 0.0012 with SNP rs6807471). These results imply that allelic variants of the gene encoding ORP10 may contribute to triglyceride and HDL levels in Finnish dyslipidemic families. To obtain functional evidence for this hypothesis, we studied the effects of ORP10 silencing by short interfering siRNA on cellular lipid

biosyntheses in the Huh7 (human hepatoma) cells. Knock-down of ORP10 caused a significant increase in the synthesis of cholesterol and triglycerides. Analysis by real-time RT-PCR quantification revealed that ORP10 knock-down leads to an increase in the mRNA for SREBP-2, a major transcriptional regulator of cellular lipid homeostasis, suggesting that ORP10 impacts on lipids at the level of gene expression. These results identify ORP10 as a novel modulator of cellular lipid homeostasis and suggest that it may play an important role in the control of human serum lipid/lipoprotein balance.

PO 117

Fungal glycosphingolipids in plant/pathogen interactions

Simone Zäuner¹, Sandra Albrecht¹, Philipp Ternes¹, Karin Thevissen², Ulrich Zähringer³, Bruno P. A. Cammue², Ernst Heinz¹, Dirk Warnecke¹, Petra Sperling¹

¹Biozentrum Klein Flottbek, University of Hamburg, Germany, ²Centre of Microbial & Plant Genetics, University of Leuven, Belgium, ³Lab group Immunochemistry, Research Centre Borstel, Germany

Glucosylceramide (GlcCer) represents the unique glycosphingolipid which plants, fungi and animals have in common. However, organism-specific modifications occur at the ceramide backbone of GlcCer. Most fungi share a consensus GlcCer structure characterised by a (4E,8E)-9-methylsphinga-4,8-dienine linked to a saturated or 3-(E)-unsaturated α -hydroxy fatty acid. 3-(E)-unsaturated fatty acids in GlcCer are exclusively found in Euscomycetes, a group which includes some human- and phytopathogenic fungi. In the course of characterising GlcCer-modifying enzymes which may be involved in plant/pathogen interactions, we succeeded in functionally identifying the first fungal 3-(E)-acyl amide desaturase from *Fusarium graminearum*, the causal agent of wheat head-blight disease. Recently, we have shown that fungal GlcCers act as targets for plant defensins. The growth of yeasts - such as *Pichia pastoris* - is inhibited by RsAFP2, an antifungal peptide isolated from radish seeds (*Raphanus sativus*). The structural features of fungal GlcCer, which are important for the interaction with the antifungal defensin and/or for subsequent inhibition of cell growth, were assessed via a gene deletion approach in *P. pastoris* and ELISA-based binding studies.

PO 130

A novel catabolic pathway of glycosphingolipids mediated with a Kltho-related protein

Yasuhiro Hayashi¹, Nozomu Okino¹, Yoshimitsu Kakuta¹, Toshihide Shikanai², Motohiro Tani³, Hisashi Narimatsu², Makoto Ito¹

¹Department of Bioscience and Biotechnology, Kyushu University, Japan, ²Research Center for Medical Glycoscience, National Institute of Advanced Industrial Science and Technology, Japan, ³Department of Chemistry, Kyushu University, Japan

Using C6-NBD-glucosylceramide (GlcCer) as a substrate, we detected the activity of a conduritol B epoxide (CBE)-insensitive neutral glycosylceramidase in cytosolic fractions of zebrafish embryos, mouse and rat brains and human fibroblasts (Hayashi *et al.*, *Anal. Biochem.* **345**, 181-186, 2005). The candidates for the enzyme were assigned to the Kltho (KL), whose family members share a β -glucosidase-like domain but whose natural substrates unknown. Among this family, only the KL-related protein (KLrP) is capable of degrading C6-NBD-GlcCer when expressed in CHOP cells, in which Myc-tagged KLrP was exclusively distributed in the cytosol. In addition, knockdown of endogenous KLrP by siRNA increased the cellular level of GlcCer. Purified recombinant KLrP hydrolyzed 4-methylumbelliferyl-glucose, C6-NBD-GlcCer, and authentic GlcCer at pH 6.0. The enzyme also hydrolyzed the corresponding galactosyl derivatives but each *k_{cat}/K_m* was much lower than that for glucosyl derivatives. The X-ray structure of KLrP at 1.6 Å resolution revealed that KLrP is a (α/β)₈

5

Secretariat Steering Committee:

Via Cadore 48– 20052 MONZA

Tel +39 02 64488212/10 - Fax +39 02 64488252

marzia.gallikienle@unimib.it

TIM barrel, in which E165 and E373 at the carboxyl termini of β -strands 4 and 7 could function as an acid/base catalyst and nucleophile, respectively. The distance between carboxyl oxygens of these two residues is 5.3 Å indicating that the reaction proceeds with the anomeric carbon retained upon cleavage, rather than inverted. The substrate-binding cleft of the enzyme was occupied with palmitic acid and oleic acid when the recombinant protein was crystallized in a complex with glucose. GlcCer was found to well fit the cleft of the crystal structure of KLRP. These results clearly indicate that KLRP is a novel GlcCer-degrading enzyme in cytosol and suggest that the enzyme is involved in the novel catabolic pathway of GlcCer on the cytosolic faces of Golgi apparatus or ER.

Günther Daum

Vice President of ICBL

48th International Conference on the Bioscience of Lipids (ICBL)

2007 September 4-8, Turku, Finland

Scientific Report

The opening ceremony of the 48th ICBL in Turku took place on Tuesday evening, September 4th. After the opening words, **Joachim Seelig** from Biozentrum, University of Basel, held the *L.L.M. van Deenen lecture* entitled “Protein meets lipid, the role of lipid in protein folding“. With his lecture professor Seelig gave an excellent overview of his research and in what different ways it has contributed to our current understanding in the areas of lipid-lipid and lipid-protein interactions in biological and model membranes.

The first session on Wednesday morning on **Membrane Structure and Function – Lipids and Lipid Domains** was chaired by Dennis Vance and Paavo Kinnunen. **Jerry Feigenson** from Cornell University started the session by giving a biophysical view on membrane domains looking at model membranes from binary lipid mixtures to three component membranes and 3D phase diagrams. **John Silvius** from McGill University continued on the subject with his talk on how artificial lipid-anchored proteins can be used as tools to investigate the roles of lipid microdomains in membrane function. Then **Petra Schwille** from Technische Universität Dresden gave her view on membrane domains and how AFM, FCS and single molecule methods can be usefully combined to characterize membrane domains. In the session’s short presentations, **Henry Boumann** from the Royal Netherlands Institute for Sea Research talked about the special biophysical features of the ladderane lipids found in anammox bacteria. **Lin Chen** from King’s College gave a presentation of X-ray diffraction and calorimetric studies on the effect of different sterols on the phase-behavior of phospholipid mixtures. The last speaker of the session was **Georg Pabst** from the Austrian Academy of Sciences who talked about the effect of the antimicrobial peptide alamethicin on osmotically stressed fluid phospholipid bilayers.

Peter Mattjus started the second part of the session on Wednesday with a short introduction of professor Per Ekwall, one of the most important scientists in the history of Åbo Akademi University. Ekwall was a distinguished chemist with interests in amphiphile chemistry and he was also one of the researchers starting the ICBL meetings in 1953. The first lecture in the afternoon (this session was chaired by Anna Seelig and Peter Mattjus) was named in honour of Per Ekwall, and was delivered by **Göran Lindblom** from the University of Umeå. He talked about the use of NMR in finding the driving forces behind domain formation in lipid bilayers and nicely coupled his talk to the impact Per Ekwall had had on his own research. The last plenary lecture of the session was given by **Michael Edidin** from the Johns Hopkins University. With the intriguing title “Sea monsters and membrane domains” he talked about the advantages and pitfalls of the methodologies used today in the hunt for lateral domains in biological

6

Secretariat Steering Committee:

Via Cadore 48– 20052 MONZA

Tel +39 02 64488212/10 - Fax +39 02 64488252

marzia.gallikienle@unimib.it

membranes. **Elisa Cabré** from Universidad Complutense de Madrid gave a short presentation on the pulmonary surfactant protein B and the interaction of this protein with model membranes. **Rachel Kraut** from the Institute of Bioengineering and Nanotechnology in Singapore presented a fluorescent sphingolipid-binding peptide probe which can be used to label glycosphingolipids in live cells. **Greger Orädd** from the University of Umeå presented his NMR work on lipid diffusion in three component lipid bilayers. Finally, **Yoshio Hirabayashi** from the Brain Research Institute, RIKEN ended the session by introducing a new mammalian glycolipid, phosphatidylglucoside, that is able to form microdomains.

The Thursday morning session **Membrane Structure and Function – Computational Studies** was chaired by Marja Hyvönen and Ilpo Vattulainen. The first plenary lecturer was **Peter Tieleman** from the University of Calgary who gave a general introduction to molecular dynamics and how this can be used to model lipid flip-flop and partitioning of small molecules mimicking amino acid residues into bilayers. **Helmut Grubmüller** from the Max Planck Institute in Goettingen, Germany by discussing computer simulations of proteins in membranes exemplified by the aquaporins. In the short talks **Roland Faller** from University of California Davis showed that he could actually demonstrate liquid-gel co-existence by using different coarse-grained simulation models. **Teemu Murtola** from Helsinki University of Technology presented a study on domain formation in single-component phospholipid bilayers by multiscale modeling. A comparison of lateral pressure profiles of one-component and raft-like many-component lipid bilayers by atom-scale molecular dynamics simulations was presented by **Samuli Ollila** from the Tampere University of Technology. The last talk on computational studies was given by **Timothy Sirk** from Virginia Tech, who presented a study on the interaction of flavonoids from tea extract with bilayer membranes.

The session **Membrane Structure and Function - Protein in Membranes** on Thursday afternoon was chaired by William Dowhan and Peter Ott. **Gunnar von Heijne** from Stockholm University gave an intriguing lecture on how carefully designed model protein constructs can be used to gather information on a protein's ability to insert into the endoplasmic reticulum membrane. **Ronald McElhaney** (University of Alberta) continued by presenting his biophysical studies on antimicrobial peptides in bilayer model and biological membranes. A presentation of lipid interactions with ion channels was given by **Anthony Lee** from University of Southampton. Next **Konstantin Kuppe** (Martin Luther University) presented his work on how calcium-induced phase separation influences phospholipase D activity. This was followed by **Peter Bütikofer** from University of Bern, who gave a talk about the source of ethanolamine for GPI and EPG modification of proteins. Then the interactions between apolipoprotein A-I and plasma membrane lipid domains was described by **Wendy Jessup** (University of South Wales). The last talk of the session was given by **Olof Karlsson** (GE Healthcare/Biacore) who presented many interesting biomembrane applications suitable for the biosensor technology.

Friday morning started with a session on **Intracellular Lipid Transfer** with Wendy Jessup and Dennis Voelker as chairs. **Jean Vance** from University of Alberta was the first plenary lecturer of this session. She gave a talk on lipid dynamics in neurons with special focus on the importance of cholesterol and apoE and the cellular changes in Niemann-Pick C disease. **Laura Liscum** from Tufts University continued on the Niemann-Pick C subject with her presentation of what happens to cholesterol homeostasis during this disease and what the biological role of the NPC1 protein might be. After the morning coffee break **Vytas Bankaitis** from University of North Carolina at Chapel Hill started his talk by introducing the “famous” toilet seat model for lipid transfer protein action, and then proceeded to show his latest data from the crystallographic and biophysical studies on phosphatidylinositol transfer proteins. **Kentaro Hanada** (National Institute of Infectious Diseases) gave a presentation on transfer proteins by discussing how protein phosphorylation/dephosphorylation could act as a regulator of CERT-mediated ceramide trafficking inside cells. In the following short talk, **Vesa Olkkonen** from National Public Health Institute introduced the oxysterol-binding protein related proteins and especially

talked about the role of ORP8 in macrophages. Next **Emyr Lloyd-Evans** from University of Oxford presented his studies on elevated cellular calcium levels in Niemann-Pick C disease, and on the potential role of sphingosine in Niemann-Pick disease. In Friday's last short talk **Daniel Witter** (also from University of Oxford) further suggested that secosterols might have a role on neuropathology in Niemann-Pick C disease.

The Friday afternoon was reserved for the traditional social program, which this time included a guided tour of the Turku Castle. From the old Castle, the participants were transported to the nearby city of Naantali, where the Academic Orchestra of Åbo Akademi University performed music by Sibelius and Mozart in the old Convent Church. The cultural program was followed by the conference dinner in nearby Naantalin Kaivohuone, during which the ICBL poster awards were announced. The poster awards were presented to **Julia Perttilä** (Finland), **Simone Zäuner** (Germany), and **Yasuhiro Hayashi** (Japan).

The Saturday morning session **Lipid Metabolism – Sphingolipids** was chaired by Yasuyuki Igarashi (and Kentaro Hanada) and Gerd Schmitz. **Konrad Sandhoff** from the University of Bonn, Germany gave an overview of the current state in the field of sphingolipid metabolism and the disorders related to it. Double trouble in the family of sphingomyelin synthases was then presented by **Joost Holthuis** from Utrecht University, who wanted the audience to help him with the problems he had encountered in finding the biological functions for these enzymes. Another perspective of the subject was covered by **Alfred Merrill's** (Georgia Tech) presentation on the progress of the LIPID MAPS consortium in the field of sphingolipidomics. **Erwan Beauchamp** from INRA-Agrocampus Rennes gave a short presentation on the importance of myristoylation for the activity of dihydroceramide desaturase. **Thorsten Hornemann** from the University Hospital in Zürich gave an overview of the serine palmitoyl transferase and the three isoforms of this enzyme that have been characterized. Finally, **Evelyn Orso** from University of Regensburg reconnected with the Niemann Pick-C subject with a talk on the genetic links to cholesterol and glycosphingolipid homeostasis.

The last session of the meeting on Saturday afternoon, **Lipid Metabolism – Fatty Acids**, was chaired by Tom Haines and Kalervo Hiltunen. **Jens Knudsen** from the University of Southern Denmark started the session by presenting studies on the function and localization of Acyl-CoA Binding Protein (ACBP) in fruit fly and yeast. **Charles Rock** from St. Jude Children's Research Hospital focused his talk on the structure and mechanism of bacterial type II fatty acid synthase. **Mary Hunt** from Stockholm University gave the last plenary talk of the meeting, and talked about peroxisomal lipid metabolism and the importance of auxiliary enzymes, especially acyl-CoA thioesterases. **Suzanne Jackowski** from St. Jude Children's Research Hospital then talked about the importance of *de novo* phosphatidylcholine synthesis for Golgi-mediated secretion. **Alexander Kastaniotis** from University of Oulu gave a talk about an ancient genetic link between mitochondrial fatty acid synthesis and RNA processing that could have been conserved for 400 million years. As the last oral contributor, **Gerhard Kattner** from Alfred Wegener Institute for Polar and Marine Research introduced us to the polyunsaturated fatty acids of phospholipids in marine zooplankton.

After the last session, the plans for the next ICBL meeting in Maastricht were presented. This was followed by a short award ceremony during which the BBA Young Speaker Award was presented to **Thorsten Hornemann** (Germany), and the Progress in Lipid Research Young Investigator Award to **Erwan Beauchamp** (France). The closing words for the 48th ICBL meeting in Turku were delivered by ICBL President Michel Lagarde on Saturday evening.

All meeting abstracts were published by Elsevier in the journal of *Chemistry and Physics of Lipids* (September issue 2007, Volume 149 Supplement).

J Peter Slotte, on behalf of the organizing committee

49th International Conference on the Bioscience of Lipids
August 26-30, 2008
Maastricht, The Netherlands



Tuesday, August 26, 18.00 – 21.00 h

Opening and Van Deenen Lecture by Dennis Vance, Edmonton (Alberta, Canada)

“Phosphatidylcholine biosynthesis: Unexpected player in metabolic disease”.

Wednesday, August 27, 08.30 – 18.00 h

Session 1 Cell membrane organization and dynamics of biomembranes.

Organizers: Gerrit van Meer (Utrecht) + Vytas Bankaitis (Chapel Hill)

- Vivek Malhotra, Barcelona (Spain) “The Golgi apparatus”.
- Manuel Prieto, Lisbon (Portugal) “Raft biophysics”.
- Vytas Bankaitis, Chapel Hill (USA) “Lipid homeostasis in membranes”.

Session 2 Lipid droplets as multifunctional organelles

Organizers: Dick van der Horst (Utrecht) + Dawn Brasaemle (Brunswick, USA)

- Dawn Brasaemle (Brunswick, USA) “Lipid droplet associated proteins and control of triacylglycerol metabolism”.
- Ronald Kuhnlein (Göttingen, Germany) “Fat flies: Lipid droplets as regulatory compartment of organismal energy homeostasis in *Drosophila*”.
- Michael Welte (Rochester, USA) “Motor-driven transport of lipid droplets along microtubules in *Drosophila*: molecular mechanisms and biological roles”.
- Sven-Olof Olofsson (Göteborg, Sweden) “Assembly and maturation of lipid droplets: Relation to apoB secretion”.

Thursday, August 28, 08.30 – 18.00 h

Session 3 Lipids and their dynamics in intracellular transport

Organizers: Dick Hoekstra (Groningen) + Richard E. Pagano (USA)

- Richard E. Pagano (USA) “Lipids and endocytosis”.
- Elina Ikonen (Finland) “Cholesterol transport: mode and regulation”.
- Sven C. van IJzendoorn (Groningen, the Netherlands) “Lipids and membrane polarity”.
- Maria Antonella De Matteis (Italy) “Phosphatidylinositol metabolism and trafficking”

Session 4 Fatty acids, lipids and the metabolic syndrome

Organizers: Joost Luiken (Maastricht), Klaas Nicolay (Eindhoven) + Arend Bonen (Canada).

- Arend Bonen (Guelph, Canada) “Lipid metabolism and mitochondrial function in the metabolic syndrome”
- Luc van Loon (Maastricht, the Netherlands) “Intramuscular triacylglycerols and the metabolic syndrome”.
- Bente Kiens (Kopenhagen, Denmark) “Gender differences in lipid metabolism”.

Friday, August 29, 08.30 – 13.00 h

Session 5 Lipids and inflammation

Organizers: Marten Hofker (Groningen) + Tony Vidal-Puig (Cambridge, UK)

- Tony Vidal-Puig (Cambridge, UK) “Inflammation, lipids and metabolic disorders”.
- Ronit Sverdlov (Maastricht) ”Modulating liver inflammation: A crucial role for cholesterol”.

13.00 – 18.00

Social activity

19.00 – 23.00

ICBL Gala Dinner

Saturday, August 30, 09.00 – 17.00 h

Session 6 Lipid sensing and lipid sensors

Organizers: Folkert Kuipers (Groningen, the Netherlands) + Bart Staels (Lille, France)

- Bart Staels (Lille, France) “Peroxisome proliferator activated receptors: good and bad”.
- Other speakers pending.

Session 7 Lysosomal lipid metabolism

Organizers: Ron Wanders (Amsterdam) + Volkmar Gieselmann (Bonn, Germany)

- Volkmar Gieselmann (Bonn, Germany) “Biosynthesis of lysosomes and role of lysosomes in lipid metabolism”.
- Hans Aerts (Amsterdam, the Netherlands) “Enzyme replacement therapy versus substrate deprivation in the treatment of lysosomal disorders”

Venue

Maastricht University, Faculty of Health, Medicine and Life Sciences

Auditorium with all facilities and seating capacity for 500 delegates. Adjacent cafeteria and poster display area.

Local organizers

Jan Glatz (glatz@gen.unimaas.nl)

Edouard Bevers (em.bevers@bioch.unimaas.nl)

Joost Luiken (j.luiken@gen.unimaas.nl).

Address for correspondence

Prof. Jan F. C. Glatz

Dept. of Molecular Genetics, CARIM, Maastricht University

P.O. Box 616, NL-6200 MD Maastricht, The Netherlands

Phone: +31 43 388 1998

Fax: +31 43 388 4574

Glatz@gen.unimaas.nl

Future Meetings
50th ICBL Regensburg, Germany
September, 2009

Marzia Galli Kienle

Secretary ICBL Steering Committee

Secretariat Steering Committee:
Via Cadore 48– 20052 MONZA
Tel +39 02 64488212/10 - Fax +39 02 64488252
marzia.gallikienle@unimib.it