International Conference on the Bioscience of Lipids

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NEWSLETTER 2009

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THE 49TH ICBL
MAASTRICHT, THE NETHERLANDS, AUGUST 26-30, 2008
"Maastricht, the Heart of Europe"

Maastricht, the capital of Limburg, the southern hilly province of the Netherlands, was inhabited by Celts more than 500 years before the settlement of the Romans who built a bridge over the river Meuse (Maas in Dutch). This bridge has been named Saint Servatius following the first bishop of the Netherlands, a bishopric top position that was kept till the 8th century when Liège took over the lead.
The close proximity of Belgium and Germany, and the many influences from France and Spain for historical reasons, made Maastricht the heartland of Europe much sooner than the 1992 treaty which officially created the European Union and the Euro as its common currency. This leading European position, in addition to the occurrence of a young and quite dynamic University founded in 1976, made the place an attractive one to hold the 49th ICBL.
The traditional Van Deenen Lecture, opening the scientific program, was given on Tuesday 26th evening by Professor Dennis Vance from Alberta, Canada, and was followed by a welcome reception with a gorgeous buffet allowing long chats between the delegates, from one group to another. This was a good start for the new ones to socialize and for the older ICBLians to reconvene on this special occasion.
On Wednesday 27th evening we had an official reception at the City Hall of Maastricht, a 17th century building right in the center of the big Market Place. After the official talks of welcome and best wishes for a most fruitful Conference, the delegates could walk through the place, visiting several rooms that looked like a museum, some of those rooms being decorated with huge ancient tapestries. Some of these rooms were especially popular because they welcomed side-meetings for the official signature of the 1992 treaty for the creation of European Union.
The top social activity of the week was held on Friday 29th afternoon and night. It started with a boat trip from the city center Maaspromenade up and south to Slavante on the River Meuse. Then we walked up to the marlstone caverns underneath the hill of Saint Pietersberg. After arriving at the cave entrance, half of the delegates were asked to be patient and enjoyed coffee or tea and pies while the other half experienced a one-hour guided tour in the underground labyrinth of the caves. The guides claimed more than 20,000 passageways but we did not have time to check by ourselves! The great majority of the labyrinth was completely blind, and the visitors too without portable and artificial

lights! We even experienced a narrow passage from one way to another in complete darkness, guiding ourselves by touching the wall! The ambient temperature was constantly close to 10°C with humid atmosphere, both requisites for excellent storage of Champagne or excellent wines, but we did not find any…. Instead, many writings and paintings, made on the wall by the manual cutters of the blocks of stones as well as local artists, often told the social life of the Maastricht region. Our guides pointed out that the comments were made in Dutch when written by the workers and in French when written by the middle and upper class people. This was social discrimination in that time they say! After this memorable visit, all the delegates walked toward the Fortress Sint Pieter, that they eventually found, and the restaurant welcomed them for the Conference Dinner.

The Dinner time started with a cocktail in the gardens with a nice view over the countryside on a lovely end-summer evening. Once the delegates were seated inside the restaurant, the official ceremony of the Poster Award remittance was chaired by the Vice-President of ICBL, Guenther Daum, who reminded the criteria and rules in his humoristic way. Then the gastronomical part could occur. At the mid-term, the President of ICBL gave a short speech in which he commented a word from the Chairman of the Conference, Jan Glatz, aiming to celebrate lipids for the forthcoming Short Communication Award. The sentence read: "A small step in the knowledge of lipids is a giant leap for mankind". Such a declaration should definitely be the slogan of each ICBLian! Then the speech pointed out one dominant topic of the Conference, regarding transportation (lipid transportation of course) as a key issue of our modern world, and ended with the most important highlight celebrating the perfect combination between science and culture: a toast "To the Spirit of ICBL".

Along the dinner, the "Tuna Universitaria de Maastricht" a group of students played traditional music from Spain, Portugal and South America. The students were in traditional capa, playing romantic serenades with traditional instruments. This was a very enjoyable time.

The dinner ended with an innovation. The Conference Organizers had in mind to mix the Dinner Guests within the tables to facilitate other connections/discussions, provided that in case of new research programs issued from those discussions, the scientific papers born from those should quote the origin of ideas as the 49th ICBL Conference Dinner! So, everyone received a colored label, and new tables were rearranged with guests receiving the same color leading to new and hopefully successful connections in the lipid field!

In addition to these common social activities, the accompanying persons benefited from a special guided city tour on the morning of Wednesday 27th. Starting from the railway station on the left side of the river Meuse toward its old bridge Saint Servatius where they had a nice view over the old city, its numerous bell towers, and the hill of Saint Pietersberg on the southern part of the city. Churches are numerous indeed in Maastricht, but some of them have been converted to non religious activities, such as a famous bookstore in the very center. The Visitors could then have a look at the big pedestrian and commercial street before having a longer visit through the many narrow streets exhibiting portals and old defense walls, including vestiges from the Roman time. This walk allowed the Visitors to see the Saint Servatius Basilica and Our Lady Church which both deserve a specific visit, as also the Saint Servatius Cloister next to the Basilica. This visit, as an excellent introduction to Maastricht, ended at the Market Place.

Altogether, the traditional social activities of the Conference provided the delegates with an appropriate atmosphere for fruitful exchanges, as a brand of ICBL.

With my very best wishes,
Michel Lagarde
President of ICBL

ICBL 2008 Poster Awards
"A Tribute to Young Scientists"

The sightseeing tour organized by Jan Glatz and his team took the participants of the 48th ICBL to the caves of Slavante, an underground labyrinth that was created over the course of centuries. After a pleasant coffee and tea break with delicious Dutch pies the conference delegates climbed the Fortress Sint Pieter, where the Conference Dinner took place. The ICBL Conference Dinners, however, are not only well known for their excellent food and their friendly atmosphere, but also as the occasions to present the winners of the ICBL Poster Awards.

In the same procedure as every year, Guenther Daum, the Vice President 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. It has already become a tradition that ICBL Poster Awards are a tribute of this conference to PhD students and young Post-docs who present their most recent data to experts in the field of lipid research and discuss their studies among each other. According to the rules of ICBL, only young scientist qualified for Poster Awards.

Members of the ICBL 2008 Poster Award Jury were: Guenther Daum (chairman), Graz University of Technology, Austria; Maurizio Crestani, University of Milan, Italy; Dick Hoekstra, University of Groningen, The Netherlands; Yasuyuki Igarashi, Hokkaido University, Sapporo, Japan; Peter Slotte, Åbo Akademi, Turku, Finland; Laszlo Vigh: Hungarian Academy of Sciences, Szeged, Hungary; and Ronald J. A. Wanders, University of Amsterdam, The Netherlands. Among the 114 posters which were presented at the ICBL 2008 in Maastricht, 40 posters qualified for the Poster Award following the above mentioned rules. In a first round of pre-selection, 19 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 excellent performance of all the nominees in the Poster sessions. He also thanked the sponsors of the Poster Awards for their generous donations, namely the Biochemical Journal (represented by Dick Hoekstra), Biochimica et Biophysica Acta (represented by Dennis Vance) and Chemistry and Physics of Lipids (represented by Jan Glatz). ICBL highly appreciates the support by the publishers of these journals. Finally, Guenther Daum named the winners of the ICBL 2008 Poster Awards. The representatives of the sponsors 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 2008 ICBL in Maastricht.

The winners of the 2008 ICBL Poster Awards were:

Poster Award sponsored by the Biochemical Journal
PO 41
Lipid droplet fusion is regulated by protein kinase A activity in both adipocyte and non-adipocyte cell lines
Samantha Murphy, Sally Martin, Robert G. Parton
Institute for Molecular Bioscience, University of Queensland, Brisbane, QLD 4072, Australia

Regulation of excess cellular lipids is mediated via their incorporation into lipid droplets; cytoplasmic organelles containing a core of neutral lipids surrounded by a phospholipid monolayer and associated proteins. Recent work has suggested that lipid droplets can interact with other organelles and undergo homotypic fusion. However, these processes must be tightly regulated in order to maintain cell-type specific lipid droplet size and distribution, and to prevent the potentially catastrophic redistribution of lipids to other organelles via a hemi-fusion mechanism. In this study we demonstrate that mature lipid

droplets in diverse cell types show low homotypic fusogenic activity under normal growth conditions. By screening a panel of serine/threonine kinase inhibitors we have identified protein kinase A (PKA) as being a central regulator of lipid droplet structure in both adipocyte and non-adipocyte cell lines. Inhibition of PKA stimulates the homotypic fusion of adjacent lipid droplets indicating that constitutive PKA activity at the lipid droplet surface maintains a barrier to fusion. In 3T3-L1 adipocytes the activity of PKA and the fusion process is directly regulated by signal transduction from the β3-adrenergic receptor. Following fusion lipid droplets rapidly regain a spherical structure. Modelling of the fusion reaction has shown that a minimal volume is attained after fusion with a predicted loss of surface phospholipids. Studies are underway to identify the molecular mechanisms underlying the fusion process. These studies define a novel stratagem involved in regulating the unique monolayer interactions involved in lipid droplet function.

Poster Award sponsored by Biochimica et Biophysica Acta
PO 39
Lipid droplets – a human genome wide RNAi approach to identify the regulation machinery
J. Massier, A. Niederlein, M. Zerial, C. Thiele
Max Planck Institute of Molecular Cell Biology and Genetics, Germany

In the last years, the number of overweight adults increased caused by an imbalance of energy uptake and expenditure. Therefore, it is important to understand the regulating machinery of fat storage and breakdown. In mammals, lipid droplets are the main cellular compartments of fat storage. The core of these droplets consists of neutral lipids, which are surrounded by a phospholipid monolayer and different associated proteins. The lipid droplet metabolism with its regulating machinery is still poorly understood. First genome-wide insights in this machinery were given by approaches in *Drosophila* S2-cells (Guo Y, *et al.* 2008), *Caenorhabditis elegans* (Ashrafi K, *et al.* 2003) and *Saccharomyces cerevisiae* (Szymanski KM, *et al.* 2007; Kadereit B, *et al.* 2008). However, all screening approaches conducted so far were based on a qualitative read-out. Here, we report the set-up of a human genome-wide screen for the quantitative analysis of proteins influencing the lipid droplet metabolism in humans. For this purpose a reverse-genetic approach by means of RNAi is used. After functional disruption of any individual human gene changes concerning lipid droplets are revealed in an image-based assay. By means of a quantitative multi-parametric analysis the variations of the neutral lipid storage in lipid droplets were detected. From the acquired images several parameters are measured for lipid droplets (e.g. number, size, fluorescent-intensity, distribution, clustering) and any significant differences from controls are scored. Further analysis, validation and grouping of the scored phenotypes will allow us to draw conclusions about the regulating machinery of lipid droplets in mammals.

Poster Award sponsored by Chemistry and Physics of Lipids
PO 17
Absence of 2-hydroxylated sphingolipids causes axonal degeneration
Marion Meixner[1], Inge Zöller[1], Dieter Hartmann[2], Volkmar Gieselmann[1], Matthias Eckhardt[1]
[1] *Institute of Physiological Chemistry,* [2] *Institute of Anatomy, University of Bonn, Germany*

Sphingolipids, containing 2-hydroxylated acyl residues, are abundant in myelin, yet the function of 2-hydroxylated lipids is still unknown. It has been hypothesised, however, that hydroxylation might be involved in the stabilisation of myelin sheaths. Fatty acid 2-hydroxylase (FA2H) is highly expressed in oligodendrocytes and Schwann cells, potentially supporting the former hypothesis. To investigate if this enzyme is indeed responsible for the 2-hydroxylation and to examine the function of 2-hydroxylated sphingolipids, mice lacking the FA2H gene were generated. FA2H-deficient [FA2H (-/-)] mice lacked the 2-hydroxylated lipids in brain and in peripheral nerves, but biochemical analysis of other lipids and of myelin proteins did not show any significant alterations when compared to wild type littermates. Oligodendrocyte differentiation examined by in situ hybridization with cRNA probes for proteolipid protein and the time course of myelin formation were not altered in FA2H (-/-) mice as compared to wild-type controls. Nerve conduction velocity experiments were normal. Moreover, the

deficient animals displayed normal compacted myelin at the ultrastructural level as well as normal myelin thickness, normal g-ratios and normal lipid composition of myelin rafts. Beyond this, no obvious structural changes in the paranodes could be detected in the FA2H-deficient mice. Aged FA2H (-/-) mice, however, showed spinal cord axonal degeneration and microcystic spaces, sometimes associates with accumulated fibrillary material or split myelin lamellae surrounding cytoplasmic remnants. Thus, 2-hydroxylated sphingolipids are not essential for myelin formation, but are possible required for myelin maintenance and signaling between oligodendrocytes and neurons.

Guenther Daum
Vice President of ICBL

49th International Conference on the Bioscience of Lipids (ICBL)
Maastricht, the Netherlands, August 26-30, 2008
Scientific Report

This year's ICBL conference was held in the main auditorium of the Faculty of Health, Medicine & Life Sciences of Maastricht University. A total number of 239 scientists – of whom 70 PhD students and post-doctoral fellows – from 25 countries (5 continents) attended the meeting. There were 22 invited lectures, 27 short-oral communications and 121 poster presentations.

The theme of this year's ICBL conference was *Lipidology: Bridge between Basic Science and Clinical Pathology*. The programme comprised 7 half-day sessions each dealing with specific topics related to this main theme. Following the opening ceremony on Tuesday evening, the **12th van Deenen Lecture** was given by **Dennis Vance** (Edmonton, Canada), entitled 'Phosphatidylcholine biosynthesis: Unexpected player in metabolic disease'. In this excellent lecture, dr. Vance described his research on the unraveling of the phosphatidylcholine (PC) biosynthesis pathway. Special focus was on PC synthesis from phosphatidylethanolamine (PE) in liver by PE-*N*-methytransferase (PEMT), and the significance of the membrane PC/PE ratio for proper functioning of the lipid bilayer. A recent serendipidous observation was that mice lacking PEMT were found to be protected against high fat diet-induced obesity and insulin resistance. As a result, this work is an excellent example of how fundamental research can provide unexpected leads for understanding the pathogenesis of disease.

Session 1 was devoted to cell membrane organization and dynamics of membranes and organized by **Gerrit van Meer** (Utrecht) and **Vytas Bankaitis** (Chapel Hill NC, USA). **Manuel Prieto** (Lisbon, Portugal) started out by reviewing our current knowledge on rafts and their interplay with ceramides. Rafts are closely related to ceramide because ceramide is the precursor of complex sphingolipids which are involved in raft formation. Some membrane domains are very small (< 5 nm) and can only be detected by techniques such as FRET. In the next contribution, **Vytas Bankaitis** discussed new insights into a role of phosphatidylinositol-transfer proteins (PI-TPs) in lipid signalling. PI-TPs act as a so-called nanoreactor (rather than a lipid carrier) to control the activity of phosphatidyl-inositol kinases and thereby of lipid signalling pathways. Finally, **Vivek Malhotra** (Barcelona, Spain) addressed the transport of cargo from the Golgi to the cell surface. This process is initiated by cargo and involves the recruitment and activation of protein kinase D (PKD) to the Golgi membranes. Diacylglycerol is required for binding of PKD to the membrane and together they provide specific domains for vesicle budding. An important aspect in this process is that the structure of diacylglycerol allows a membrane curvature needed for proper fission.

The topic of **Session 2** was Lipid droplets as multifunctional organelles. This session was organised by **Dick van der Horst** (Utrecht) and **Dawn Brasaemle** (New Brunswick NJ, USA). First, **Dawn Brasaemle** reviewed the role of perilipin A in the control of lipolysis in adipose tissue. Perilipin A is a structural protein coating the lipid droplets. Upon adrenergic stimulation, protein kinase A phosphorylates perilipin A which then facilitates docking of hormone sensitive lipase to trigger lipolysis and start remodeling of the lipid droplet. While phosphorylated perilipin A binds hormone sensitive lipase, under basal conditions, perilipin A binds another lipase, i.e., CGI-58. The precise functioning of CGI-58 is as yet poorly understood, but it plays a significant role in cellular triacylglycerol homeostasis. The following two invited lectures discussed research progress on lipid droplets in the fruit fly *Drosophila*. **Ronald Kühnlein** (Göttingen, Germany) applied transcriptomics and subcellular proteomics to identify control factors of insect lipometabolism, among them the triacylglycerol lipase Brummer, which is the insect homolog of mammalian adipose triacylglycerol lipase ATGL. Then, **Michael Welte** (Rochester NY, USA) gave a dynamic presentation on the intracellular mobility of lipid droplets in *Drosophila* embryos. The lipid droplets were found to move along microtubule tracks and may also dynamically exchange proteins with the rest of the cell. Finally, **Sven-Olof Olofsson** (Göteborg, Sweden) discussed the assembly and maturation of lipid droplets in the cell, in which a great number of proteins is involved. He also addressed the relation to lipid droplet maturation and the secretion of lipoproteins such as VLDL.

Session 3 'Lipids and their dynamics in intracellular transport', organised by **Dick Hoekstra** (Groningen) and **Dick Pagano** (Rochester MN, USA) started with a lecture by **Dick Pagano** on the role of sphingolipids in caveolar endocytosis. He showed that the sphingosine stereochemistry has a profound influence on the internalization mechanism and, for instance, may determine whether certain glycosphingolipids are internalized mainly via caveolae or mainly via another (e.g., clathrin- or Cdc42-dependent) mechanism. In broader perspective, sphingolipids appear important in regulating various aspect of caveolar endocytosis. Sphingolipids also have a high affinity for cholesterol and, therefore, influence its cellular distribution and transport, as was outlined in the subsequent lecture by **Elina Ikonen** (Helsinki, Finland). With respect to the mechanism involved, she recently disclosed that the small GTPase Rab8 is a key regulator of endosomal cholesterol removal. **Sven van IJzendoorn** (Groningen) then reviewed a series of studies aimed at understanding how specialized cell surface domains, particularly structurally and functionally distinct apical
and basolateral plasma membrane domains of epithelial cells, are maintained. It appears that
in epithelial cells signal-regulated sorting and trafficking in the endosomal system is tightly coupled to plasma membrane polarity, and that both sphingolipids and cholesterol are involved. Finally, **Maria Antonietta de Matteis** (Chieti, Italy) discussed aspects of phosphoinositides in membrane trafficking in health and disease. She argued that the different phosphoinositides serve not only as intermediates in the synthesis of the higher phosphorylated species, but also as active regulators of different protein targets. The latter is achieved throught the direct binding of these protein targets to specific phosphoinositides via specific domains.

In **Session 4** the various lectures dealt with fatty acids, lipids and the metabolic syndrome. This session was organized by **Joost Luiken** (Maastricht) and **Arend Bonen** (Guelph, Canada). In the first lecture, **Arend Bonen** reviewed our current understanding of the mechanism by which long-chain fatty acids are taken up by cells, in particular the recruitment of the fatty acid transporter CD36 from recycling endosomes to the plasma membrane to increase uptake. He then showed that the increased fatty acid uptake and lipid accumulation that occurs in obesity and insulin resistance is associated with the permanent presence of CD36 on the plasma membrane. In line with this, reducing plasma membrane CD36, and thus reducing fatty acid influx, increases insulin sensitivity. In the next contribution, **Luc van Loon** (Maastricht, the Netherlands) addressed the paradox that intramuscular triacylglycerol stores (IMTG) are elevated in both diabetic patients and in endurance trained athletes. He provided evidence for the hypothesis that this apparent paradox can be explained by a structural imbalance among fatty acid uptake, deposition in IMTG and mobilisation/ oxidation in diabetes patients. The third contribution in this session was from **Bente Kiens** (Copenhagen, Denmark) on gender differences in lipid metabolism. Generally, females have a significantly higher content of IMTG, but display a higher insulin sensitivity than males. Amongst others, this difference is explained by a higher percentage of type-1 muscle fibers in females but also due to a higher body fat percentage.

The third day of the conference started with **Session 5** on Lipids and inflammation, organised by **Marten Hofker** (Groningen) and **Tony Vidal-Puig** (Cambridge, UK). In his lecture, **Tony Vidal Puig** further discussed obesity, lipotoxicity and insulin resistance. Obesity can be seen as a protective mechanism against the metabolic syndrome. He explained the hypothesis that it is not the absolute amount of adipose tissue that determines whether an individual is at risk of developing insulin resistance, rather it is the capacity of adipose tissue to expand further to meet storage demands. When there is a mismatch between energy availability and storage capacity in adipose tissue, this leads to ectopic deposition of lipid in other tissues (liver, muscle) causing insulin resistance. The latter concept is known as lipotoxicity. **Ronit Shiri-Sverdlov** (Maastricht, the Netherlands) then evaluated the excess storage of lipid in the liver (steatosis) as a risk factor for the development of hepatic inflammation, referred to as non-alcoholic steatohepatitis (NASH). Her research has disclosed a crucial role for dietary cholesterol rather than steatosis as contributor to the development of hepatic inflammation and NASH.

In the afternoon the traditional ICBL social program took place. This started with a short boat tour on the river Maas, and was followed by a guided tour in the famous limestone caves of the hills just south of Maastricht. A subsequent walk through the beautiful countryside took the participants to the venue for the conference dinner, Fort St. Pieter, located on top of a hill and offering a beautiful view on the city of Maastricht and its surroundings.

Session 6 'Lipid sensing and lipid sensors' was organised by **Folkert Kuiupers** (Groningen) and **Bart Staels** (Lille, France). The first lecture was devoted to peroxisome-proliferator activated receptors (PPARs) and presented by **Bart Staels**. He gave an excellent overview of our current understanding of the functioning of the three PPAR isoforms in various tissues including their use as drug targets. Novel isoform-specific, dual and pan-agonists for the PPARs hold great potential as modulators of lipid metabolism in selected tissues for the treatment of type-2 diabetes, dyslipidemia and atherosclerosis. **Folkert Kuipers** then continued with a lecture on the Farnesoid-X Receptor (FXR), a nuclear receptor that senses bile acids in a.o. liver and intestine. FXR protects the liver from toxic effects of excess availability of bile acids. Evidence was provided that FXR represents a potentially attractive target for treatment of various aspects of the metabolic syndrome. The final contribution in this session was from **Cathérine Postic** (Paris, France), who discussed a role for the transcription factor ChREBP (carbohydrate responsive element binding protein) as a central regulator of glucose action and of lipid synthesis in liver. ChREBP thus is involved in the regulation of *de novo* lipogenesis in liver, which control is crucial to avoid excess lipid storage and related metabolic diseases.

The final **Session 7** covered lysosomal lipid metabolism and was organised by **Ron Wanders** (Amsterdam) and **Volkmar Gieselmann** (Bonn, Germany). **Volkmar Gieselmann** started out with an overview of lysosomal function and of disorders of lysosomal lipid metabolism. The lysosomal lipid degradation pathways appear of great importance because for almost every enzymatic step a genetic disorder has been described in humans. Lipid storage diseases are often caused by a deficiency of a certain hydrolase. Examples were presented of recently generated animal models to study both the pathophysiology and the feasibility of therapeutic approaches. Thereafter, **Hans Aerts** (Amsterdam, the Netherlands) discussed enzyme replacement therapy versus substrate deprivation in the treatment of lysosomal disorders, exemplified for type I Gaucher disease, a disorder characterised by intralysosomal storage of glucosylceramide in tissue macrophages.

During the closing ceremony the awards for short-oral communications were presented. The awards for the best posters already had been presented during the conference dinner.

Oral Communication Awards:

• Christine Moessinger (Dresden, Germany): Lipid droplets expand their surface layer by local synthesis of phosphatidylcholine.

• Caroline Duval (Wageningen, the Netherlands): Adipose tissue failure signals the evolution of hepatic steatosis towards non-alcoholic steatosis (NASH) in the C57Bl/6 diet-induced obesity mouse model.

• Hirishi Yamamoto (Kyoto, Japan): Effect of sphingolipids on monocyte differentiation into macrophage.

Poster Presentation Awards:

• Marion Meixner (Bonn, Germany): Absence of 2-hydroxylated sphingolipids causes axonal degeneration. Award sponsored by *Chemistry and Physics of Lipids*.

• Julia Massier (Dresden, Germany): Lipid droplets - a human genome wide RNAi approach to identify the regulation machinery. Award sponsored by *Biochimica et Biophysica Acta*.

• Samantha Murphy (Brisbane, Australia): Lipid droplet fusion is regulated by protein kinase A activity in both adipocyte and non-adipocyte cell lines. Award sponsored by *Biochemical Journal*.

The abstracts of the invited lectures, short-oral communications and poster presentations have been published in *Chem Phys Lipids* **154**, S1–S63, 2008.

***Jan Glatz,* On behalf of the Organizing Committee ICBL 2008**

50th International Conference on the Bioscience of Lipids
September 1-5, 2009
Regensburg, Germany

Conference Program of the 50th Jubilee ICBL in 2009

Tuesday, September 1, 2009

13th Laurens van Deenen Lecture
David Mangelsdorf (USA)
Mediator lipidomics - targeting transcriptional regulation

Wednesday, September 2, 2009

Session 1: Membrane microdomain heterogeneity and signalling
Session 2: Functions of sterol molecular species

Thursday, September 3, 2009

Session 3: Metabolism and impact of molecular species from minor fatty acid classes
Session 4: Eicosanoids and biological signalling

Friday, September 4, 2009

Session 5: Regulatory functions of glycerophospholipid and sphingolipid species

Saturday, September 5, 2009

Session 6: Lipotoxicity and phospholipidosis
Session 7: Lipid barrier function

Venue

Regensburg, Germany
The conference will take place at the Kolpinghaus, Adolph-Kolping-Strasse 1, 93047 Regensburg. The auditorium is equipped with all facilities and has a seating capacity for up to 500 delegates. It has very good transport connections, very close to the picturesque Old Town and to mostly all hotels.

Local Organizers

Gerd Schmitz	Jürgen Jonas
Charalampos Aslanidis	Stefan Lehneis
Josef Ecker	Evelyn Orsó
Susanne Heimerl	Gerhard Liebisch

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Future Meetings
51st ICBL Bilbao, Spain
September 7-11, 2010




Venue
Bilbao, Spain

Local Organizers
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Main theme of the conference
Lipids and Biomembranes

The van Deenen Lecture
Bill Dowhan (USA) "Lipids in the assembly of membrane proteins"

Preliminary Scientific Programme
- Physical chemistry of lipids
- Lipids and biomembranes
- Bioactive lipids and lipidomics
- Lipids in health and disease
- Lipid-protein interactions and lipid trafficking
- Plant lipids
- Microbial lipids

Marzia Galli Kienle
Secretary ICBL Steering Committee