

## JOURNÉES CHEVREUL 2015

### LIPIDS & BRAIN 3

Paris (FIAP Jean Monnet)

Monday 16th to Wednesday 18th March 2015

#### Scientific Committee

Bernadette DELPLANQUE, Philippe GUESNET, Rob WINWOOD  
Pascale BARBERGER-GATEAU, Michel LINDER, Claire BOURLIEU

The French Society for the Study of Lipids (SFEL) and SCI are pleased to invite you to participate in the **Journées Chevreul Lipids & Brain III 2015** conference which will be held in Paris on 16-18 March, 2015, at FIAP Jean Monnet.

Since 2007, the SFEL organizes this research conference every 4 years which, over a period of 3 days, examines the latest findings in this field of research within a framework of human health and nutrition.

This **Lipids & Brain III 2015** conference follows on from the success of the previous conferences of 2007 and 2011 held in Paris, which have hosted more than 200 participants from more than twenty countries.

At those conferences, two outstanding scientists were honored with the French CHEVREUL Medal for their pioneering research- Dr Stanley I. RAPOPORT (Bethesda, USA) and Pr. Nicolas G. BAZAN (New Orleans, USA).

The **Lipids & Brain III 2015** Conference will bring together leading researchers to

present the latest findings into both fundamental and applied research on the metabolism and the biological effects of polyunsaturated fatty acids (PUFAs) within the brain and the retina, but also others specific fatty acids and structured lipids.

Recent advances on the metabolism and bioactivity of long-chain PUFAs in the central nervous system, particularly that of docosahexaenoic acid (DHA), will be examined during development and ageing. The action of PUFAs on infant development, as well as that of long-chain monounsaturated fatty acids and lipid micronutrients, will also be addressed. Three specific sessions will be devoted to the latest insights into brain (ischemia and Alzheimer's Disease), neuropsychiatric disorders and eye diseases.

The conference will end with recommendations for brain and eye nutrition and a session on emerging areas of research. The conference format is once again explicitly designed to promote discussion and interaction between participants and speakers.

The next **Journées Chevreul 2015 Lipids & Brain III Conference** will provide an opportunity to extend our knowledge in these fields of research and on the relationship between nutrition, fatty acids, lipids and central nervous system function during development and ageing. Professor **Michael Angus CRAWFORD** from Imperial College (London, UK) will be honoured for his research on DHA metabolism, neurosignaling and human brain evolution. Professor CRAWFORD is one of the pioneer researchers who was actively involved in the discovery of the essentiality of omega 3 fatty acids, and the presence and the functions of DHA in brain membranes.

**We look forward to welcoming you to this exciting conference in Paris next spring.**



#### CHEVREUL MEDAL

**Pr. Michael A. CRAWFORD**

Past, Present And Future:  
The Extreme Conservation Of Neurosignaling  
And The Cost Of Mental Ill-Health

**Monday  
March 16  
2015**

- 9h00**      **Registration, Posters and coffee**  
**9h45**      **Introduction by the SFEL President**

**METABOLISM AND MECHANISMS OF ACTION OF POLYUNSATURATED FATTY ACIDS IN THE BRAIN**

**(Chair: P. Guesnet, R. Bazinet)**

- 10H00**      Metabolic fate of AceDoPC, a stable form of LysoPC-DHA to target the brain  
**Michel LAGARDE, France**
- 10H20**      Molecular principles for docosahexaenoic acid retention and for its cell survival bioactivity in the nervous system  
**Nicolas G. BAZAN, USA**
- 10H50**       $\beta$ -oxidation and rapid metabolism, but not uptake regulate brain eicosapentaenoic acid levels  
**Richard P. BAZINET, Canada**
- 11H20**      Gene expression of arachidonic and docosahexaenoic acid cascade enzymes is coordinated within transcriptional modules in a hierarchical manner during human brain development and aging  
**Stanley E. RAPOPORT, USA**
- 11H40**      Nutritional n-3 PUFAs deficiency during perinatal period alters brain immune system and neuronal plasticity  
**Sophie LAYE, France**
- 12H15**      Resolvins promote resolution of brain inflammation via microglial cell polarization  
**Corinne JOFFRE, France**
- 12h00**      **Lunch / Posters Session**

**Presentation by P. Guesnet**

- 14h00**      **CHEVREUL Medal: Pr Michael A. CRAWFORD, UK**  
Past, present and future: the extreme conservation of neurosignaling and the cost of mental ill-health

- 15h00**      **Coffee break, Posters Session**

**LIPIDS AND INFANT DEVELOPMENT**

**(Chairs B. Gibson, C. Bourlieu)**

- 15h30**      Differential effects of prenatal DHA supplementation by maternal socio-demographic characteristics  
**Maria MAKRIDES, Australia**
- 16h00**      Long-chain saturated and monounsaturated fatty acids are correlated to early development in premature infants  
**Birgitta STRANDVIK, Sweden**
- 16h30**      Early nutritional determinants of cognitive development in children of the EDEN mother-child cohort - Role of polyunsaturated fatty acid  
**Barbara HEUDE, Jonathan BERNARD, France**
- 16h50**      Parenteral nutrition and brain development after preterm birth  
**Randal K. BUDDINGTON, USA**
- 17h10**      Why lutein is important for the eye and the brain  
**Maria RAMIREZ, Spain**
- 17h30**      **Posters Session**

**Tuesday  
March 17  
2015**

## **DIETARY LIPIDS, AGEING AND BRAIN PATHOLOGIES**

**(Chairs: L. Belayev B. Delplanque)**

**9h00**

Lipid signaling: connecting inflammation and lipid metabolism  
**Mojgan MASOODI, Switzerland**

## **BRAIN ISCHEMIA**

**9h30**

Palmitic and stearic acid methyl esters as potential vasodilators and neurotransmitters  
**Hung W. (Kevin) LIN, USA**

**10h00**

A novel therapeutic strategy for experimental stroke using docosahexaenoic acid complexed to human albumin.  
**Ludmila BELAYEV, USA**

**10h30**

**Coffee break / Posters Session**

**11h00**

A parenteral lipid emulsion protects from mitochondrial dysfunction in a MCAO mouse model of ischemic stroke  
**Gunter P. ECKERT, Germany**

**11h30**

Role of HDL in brain ischemia/stroke  
**Olivier MEILHAC, France**

**12h00**

Dairy fatty acids intake is protective against the occurrence of vasospasm after subarachnoid haemorrhage, while omega6 fatty acids exert an opposite role  
**Jean-Charles MARTIN, France**

**12h30**

**Lunch / Posters Session**

## **ALZHEIMER DISEASE**

**(P. Barberger-Gateau, S. Cunnane)**

**14h00**

Deteriorating brain uptake of glucose but not ketones in Alzheimer's disease: Could medium chain triglycerides be of therapeutic benefit?  
**Stephen C. CUNNANE, Canada**

**14h30**

Long-chain n-3 PUFA and cognition in older people: interaction with Apolipoprotein E genotype  
**Pascale BARBERGER-GATEAU, France**

**14h50**

A unique brain lipidome and metabolome biosignature in Alzheimer's Disease?  
**Giuseppe ASTARITA, USA**

**15h10**

The rationale and efficacy of Souvenaid, a medical food targeting synaptic dysfunction in early Alzheimer's disease  
**John W.C. SIJBEN, the Netherlands**

**15h30**

**Coffee break / Posters Session**

## **PSYCHIATRIC DISORDERS AND NEUROLOGICAL PATHOLOGIES**

**(Chairs: H. Bengtsen, B. Delplanque)**

**16h00**

Modern Fats and the Modern Mind: Aggression and Depression  
**Joseph R. HIBBELN, John P. SANGIOVANI, USA**

**16h30**

Omega-3 for child behaviour and learning: clinical trials in ADHD and the general population  
**Alexandra J. RICHARDSON, United Kingdom**

**17h00**

Phospholipids, Arachidonic Acid, and Eicosanoids Signaling in Schizophrenia  
**Jeffrey K. YAO, USA**

**17h30**

**Posters Session, 18h00 SFEL AG, Gala diner: boarding 19h45 and cruise departure 20h30**

## LIPIDS AND EYE DISEASES

(Chairs P. Barberger-Gateau, N. Bazan)

- 9h00** Fatty acids and the prevention of ocular pathologies: where do we stand?  
**Lionel BRETILLON, France**
- 9h30** A Novel Role for Very Long Chain Fatty Acids in Brain Function  
**Blake R. HOPIAVUORI, USA**
- 9h50** Lipids and eye diseases: an epidemiological perspective  
**Cécile DELCOURT, France**
- 10h10** Phospholipase A2, the neurotrophin pigment epithelial derived factor and lipid mediators regulate corneal nerve regeneration  
**Haydee BAZAN, USA**
- 10h30** **Coffee break / Posters Session**

## RECOMMENDATIONS FOR BRAIN NUTRITION

(Chairs: P. Legrand, B. Delplanque P. Guesnet)

- 11h00** Alterations in dietary n-3 and n-6 fatty acids for treating chronic headaches  
**Christopher RAMSDEN, USA**
- 11h30** Choosing foods to balance competing n-3 and n-6 HUFA and their actions  
**Bill LANDS, USA**
- 12h00** LCPUFA Requirement for brain development  
**Robert A. GIBSON, Australia**
- 12h00** **Lunch / Posters Session**

## EMERGING AREAS OF RESEARCH

(Chairs: M. Linder, R. Winwood)

- 14h00** Has the key role of Arachidonic Acid in the development of neural systems in infants been forgotten? – a topical review  
**Rob WINWOOD, United kingdom**
- 14h20** Impact of the gut microbiota on brain development and function  
**Sylvie RABOT, France**
- 14h40** The preterm pig as a translational model to study the role of lipids in growth and development  
**Randal K. BUDDINGTON, USA**
- 15h00** Lecithin Extracted from a Marine Source in the Form of Nanoliposomes Promotes Neural Network Arborization and Formation in Primary Neuronal Cultures  
**Elmira ARAB-TEHRANI, France**
- 15h20** Tracing neural development and rhythms in a benchtop perfusion platform for combined long-term microelectrode in vitro electrophysiology and time-lapse imaging  
**Axel BLAU, Italy**
- 15h40** Dietary triglycerides act on mesolimbic structures to regulate the rewarding and motivational aspects of feeding  
**Serge LUQUET, France**

## 16h00 - 16h15 CONCLUSIONS Linder Michel

Online registration and informations are available on the SFEL website at  
<http://www.sfel.asso.fr/fr/accueil,2.html>. Contact for posters, [guesnet07@gmail.com](mailto:guesnet07@gmail.com)  
or [bernadette.delplanque@u-psud.fr](mailto:bernadette.delplanque@u-psud.fr)

OCL Journal will have the exclusivity for publishing the congress proceedings  
as a special open access issue in 2015

OCL - Oilseeds and fats, Crops and Lipids, Example «Lipids and brain 2011» OCL Vol. 18, No. 4.





## GALA DINER : Paris by night

On a cruising restaurant on board of a ic boat. A wonderful approach of the greatest monuments of Paris by the Seine, with a gourmet meal elaborated by Chef **Marial Enguehard**, «Meilleur Ouvrier de France» with all fruits and vegetables selected from **Joël Thiebault** garden.

**Boarding 19h45, departure 20h30** at the Cygnes Island in the middle of Pont de Bir Hakeim close to Eiffel tower 75015 (5 mn from metro Bir Hakeim station, line 6 or RER C Champ de Mars-Tour Eiffel station.

[www.lecapitainefracasse.com](http://www.lecapitainefracasse.com)

## FIAP Jean Monnet

30, rue Cabanis - 75014 PARIS

### PUBLIC TRANSPORTATION

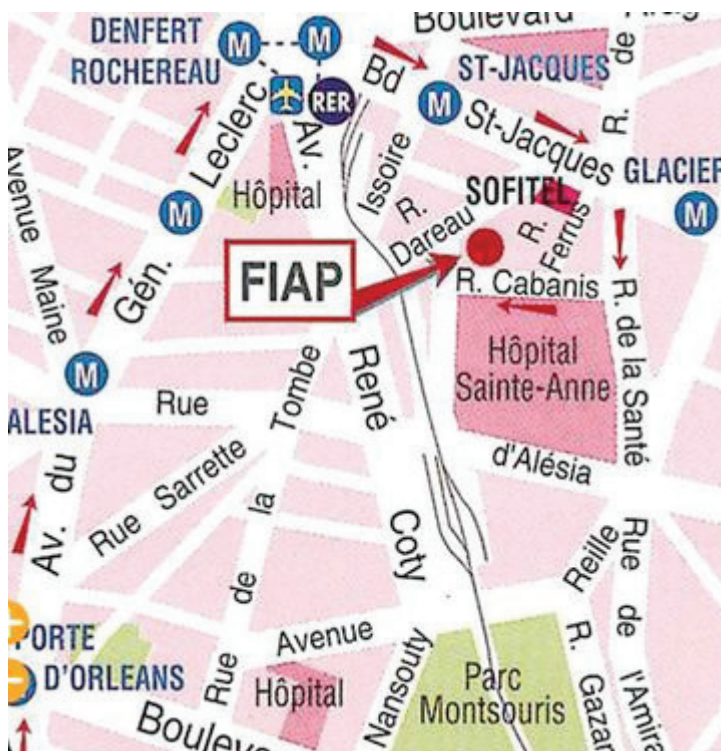
• **Metro line 6:** Exit at Denfert-Rochereau or Glaciere Station

#### • From Roissy Charles de Gaulle Airport:

RER B: direction Robinson/ Saint Remy-les-Chevreaux. Exit at Denfert-Rochereau Station (10 mn walking) or take the metro line 6 direction Nation (see 1.)

#### • From Orly Airport:

Take Orly bus or Orly Val to Denfert-Rochereau. Exit at Denfert-Rochereau Station (10 mn walking) or take the metro line 6 direction Nation (see 1.)



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