

Tuesday, September 8, 2009

14:00-20:00 **Registration in the Grand Hall**

15:30-16:00 **Welcome Address in the Hall Binet**

16:00-17:45 **Symposium 1**

*Supported by Muséum
National d'Histoire Naturelle*

HALL BINET

A Short History of Glial Cells in Health and Disease

Organizers: *A. Boullerne, G. Devries*

**The curious odyssey of the underappreciated
astrocyte**

G. DEVRIES, Hines, USA

Discovery of oligodendrocytes and microglia cells

A. BOULLERNE, Chicago, USA

History of the Schwann cell

C. LEVINE, Stockholm, Sweden

**From Jean Cuvelier and Robert Carswell to Jean
Martin Charcot: The initial description of multiple
sclerosis**

B. ZALC, Paris, France

Multiple sclerosis: the Twentieth Century

B. ARNASON, Chicago, USA

17:45-18:00 *Break and Exhibition in the Grand Hall*

18:00-19:00 **Opening Plenary Lecture 1**

HALL BINET Chair: *H. Kettenmann, Berlin, Germany*

Neural Stem Cells: From development to repair

*F.D. MILLER, University of Toronto,
Ontario, Canada*

19:00-20:00 **Opening Plenary Lecture 2**

HALL BINET Chair: *R. Matsas, Athens, Greece*

**Transcriptional regulators that control Schwann cell
development, dedifferentiation and nerve repair**

R. MIRSKY, University College, London, UK

20:00-21:30 **Welcome Reception in the Grand Hall**

Wednesday, September 9, 2009

08:30-19:00 **Registration in the Grand Hall**

09:00-10:00 **Plenary Lecture 3** *Supported by COST Neurinfnet*

HALL BINET Chair: *B.Ransom, Seattle, USA*

Impact of systemic inflammation on the brain in health and disease

H. PERRY, University of Southampton, Southampton, UK

10:00-10:30 *Coffee Break and Exhibition in the Grand Hall*

10:30-12:30 **Symposium 2**

HALL WEISS **Mechanisms of Death and Regeneration of Oligodendroglial Progenitors in White Matter Injury**

Organizers: *S.A. Back, L. Sherman*

Mechanisms of OPC plasticity and repair in animal models of chronic white matter injury

S.A. BACK, Portland, USA

Specification of human oligodendrocytes

S.C. ZHANG, Madison, USA

The balance between hyaluronan synthesis and hyaluronidase activity regulates neural stem/progenitor cell proliferation, differentiation and remyelination

L. SHERMAN, Beaverton, USA

Developing oligodendrocytes are highly vulnerable to multiple forms of injury

P. ROSENBERG, Boston, USA

HALL DELMAS **Symposium 3** *Supported by SERVIER*

Positional Information in Neuroglial and Neurovascular Development

Organizer: *J.L. Thomas*

Homeoprotein contributions to oligodendrogenesis in the hindbrain and spinal cord

J.L. THOMAS, Paris, France

Are the properties of glia related to their sites of origin in the neuroepithelium?

W.D. RICHARDSON, London, UK

Neurovascular interactions in the embryonic brain

P. BHIDE, Boston, USA

Transcription factor code for spatio-temporal control of gliogenesis
M. NAKAFUKU, Cincinnati, USA

Involvement of hox genes in whisker-to-barrel topographic map formation
F. RIJLI, Basel, Switzerland

HALL BINET

Symposium 4

New Concepts in Microglia Signalling and Function

Organizers: *T. Möller, U.K. Hanisch*

The role of microRNAs in microglial activation
T. MOLLER, Seattle, USA

Region-specific properties of microglia in the healthy adult mouse brain
K. BIBER, Groningen, Netherlands

Microglial responses to endogenous toll-like receptor agonists
U.K. HANISCH, Göttingen, Germany

The function of microglia in neuropathic pain
K. INOUE, Fukuoka, Japan

12:30-13:30 *Lunch in the Grand Hall*

12:30-15:30 **Posters Sessions in the Grand Hall**

13:00-13:45 *GLIA Publishing Lecture*

HALL WEISS **Successful Scientific Publishing**
B. RANSOM, Seattle, WA, USA

15:00-15:30 *Coffee Break and Exhibition in the Grand Hall*

15:30-17:30 **Symposium 5**

HALL WEISS **Specification and Differentiation of Neural Crest Cells**

Organizer: *V. Pachnis*

Temporal characterisation of the neurogenic potential of Sox10-expressing enteric nervous system progenitors.
V. PACHNIS, London, UK

Regulatory events guiding neural crest formation
M. BONNER-FRASER, CA, USA

Assignment of fates within the cranial neural crest
A. GRAHAM, London, UK

Neural crest fate is predicted by dynamic spatiotemporal information in the dorsal neural tube
C. KALCHEIM, Jerusalem, Israel

Directional migration of neural crest cells is controlled by contact inhibition of locomotion.

R. MAYOR, London, UK

HALL DELMAS **Symposium 6** *Supported by COST Myelinet*

Regulation of Myelin Sheath Biogenesis

Organizers: *N. Shaeren-Wiemers, J. Trotter*

The influence of the raft protein Mal in myelinogenesis and maintenance

N. SCHAEREN-WIEMERS, Basel, Switzerland

Role of Fyn kinase in myelination

J. TROTTER, Mainz, Germany

Genetic approaches to myelination

K.A. NAVE, Göttingen, Germany

Transcriptional networks and epigenetic modulators of myelin genes

P. CASACCIA, New York, USA

HALL BINET **Symposium 7**

Conditional Mutagenesis in Glia: Technical Advances in the Selective Modulation of Astroglial Gene Function

Organizer: *M. Theis*

Quality control and multiplex reporter-gene approaches in conditional knockouts

M. THEIS, Bonn, Germany

Genomewide production of multipurpose alleles for the functional analysis of the mouse genome

F. SCHNÜTGEN, Frankfurt Am Main, Germany

Targeting and fate mapping of NG2 glia by BAC transgenesis

A. NISHIYAMA, Storrs, USA

Controlled ablation of glial ampa receptors and their impact for mouse behavior

F. KIRCHHOFF, Göttingen, Germany

Evidence derived from genetic models indicates that GPCR-dependent increases in astrocytic calcium does not play a major role in synaptic transmission at the Schaffer collateral-CA1 synapse

K. MCCARTHY, Chapel Hill, USA

18:00-19:00 **Plenary Lecture 4**

HALL BINET Chair: *U. Suter, Zürich, Switzerland*

Axon guidance molecules: from neuron to glia

A. CHEDOTAL, Institut de la Vision, Paris, France

Thursday, September 10, 2009

09:00-10:00 **Plenary Lecture 5**

HALL BINET Chair: *K.R. Jessen, London, UK*

In vivo imaging and genetic analysis of glial cell development

B. APPEL, University of Colorado, Denver, USA

10:00-10:30 *Coffee Break and Exhibition in the Grand Hall*

10:30-12:30 **Symposium 8** *Supported by COST Myelinet*

HALL BINET **Regulation of Oligodendrocyte Differentiation in Development and Repair**

Organizers: *B. Nait oumesmar, Q.R. Lu*

HDAC-WNT/TCF signaling controls oligodendrocyte fate specification

Q.R. LU, Dallas, USA

Regulation of stem/progenitor cell differentiation during CNS remyelination: a genomic approach

R.J.M. FRANKLIN, Cambridge, UK

Directing neural stem/progenitor cells into myelinating oligodendrocytes

B. NAIT OUMESMAR, Paris, France

Transcriptional controls that may contribute to limited repair from chronic demyelination

R. ARMSTRONG, Bethesda, USA

Mash1 expression and function during cortical oligodendrogenesis and remyelination

C. PARRAS, Paris, France

HALL DELMAS **Symposium 9** *Supported by MDA*

Signalling Mechanisms Regulating Axon-Glial Interaction during Peripheral Myelin Formation

Organizers: *B. Carter, S.O. Yoon*

BDNF-dependent ERBB2 activation is responsible for polarized signaling of RAC1

S.O. YOON, Columbus, USA

The role of NF-KB in Schwann cell differentiation into a myelinating phenotype

B. CARTER, Nashville, USA

The control of nerve development, pathology and repair by c-Jun and Notch in Schwann cells.

K.R. JESSEN, London, UK

Claw paw meets the Adams family: The role of Lgi4 and ADAM22 in peripheral nerve development

D. MEIJER, Rotterdam, Netherlands

Congenital hypomyelinating neuropathy with lethal conduction failure in mice carrying the Egr2 I268N mutation

J. MILBRANDT, St. Louis, USA

HALL WEISS

Symposium 10

Supported by COST Neurinfnet

Toll-like Receptors in Regulation of Glial Regeneration and Response

Organizer: *T. Owens*

Neuronal-glial cross-talk and TLR signals

T. OWENS, Odense C, Denmark

Toll-like receptor 2 (TLR2) signaling impacts innate and adaptive immune responses to bacterial infection in the CNS parenchyma

T. KIELIAN, Omaha, USA

A vicious cycle in the CNS: host-derived molecules and activation of toll-like receptors mediate neurodegeneration

S. LEHNARDT, Berlin, Germany

The TLR2/MyD88/IRAK Pathway Functions to Prevent Oligodendrocyte Maturation and Inhibit Remyelination

T. VARTANIAN, New York, USA

12:30-13:30 *Lunch in the Grand Hall*

12:30-15:30 **Posters Sessions in the Grand Hall**

15:00-15:30 *Coffee Break and Exhibition in the Grand Hall*

15:30-17:30

Symposium 11

Supported by COST Neurinfnet

HALL BINET

Immune-Mediated Destruction of Glial Cells: Mechanisms and Consequences

Organizers: *R. Liblau, H. Lassmann*

Study of pathogenic t cells targeting oligodendroglial self-antigens in animal models

R. LIBLAU, Toulouse, France

Neuromyelitis optica: autoimmunity against aquaporin 4

H. LASSMANN, Wien, Austria

IL-17 cytokines, under suspicion but innocent: which cytokines cause tissue damage in the CNS?

B. BECHER, Zurich, Switzerland

Primary oligodendropathy is not a trigger of CNS inflammation

A. WAISMAN, Mainz, Germany

T cell mediated astrocyte death in Rasmussen encephalitis

C. BIEN, Bonn, Germany

HALL DELMAS

Symposium 12

Supported by COST Myelinet

Cajal Revisited - Peripheral Glia for Central Repair

Organizers: *S.C. Barnett, R. Franklin*

The use of olfactory cells in the repair of the central nervous system

S.C. BARNETT, Glasgow, UK

Genetically engineered Schwann cells for CNS repair

R. MATSAS, Athens, Greece

Olfactory ensheathing cell-based mechanisms of repair

J. ROSKAMS, Vancouver, Canada

The neural crest-derived boundary cap cells generate myelinating Schwann cells and oligodendrocytes in the demyelinated central nervous system.

V. ZUJOVIC, Paris, France

CNS-resident glial progenitor/stem cells produce Schwann cells as well as oligodendrocytes during repair of CNS demyelination

M. ZAWADZKA, Cambridge, UK

HALL WEISS

Symposium 13

Glial Cell Plasticity: from Physiology to Cancer Stem Cells

Organizers: *G. Finocchiaro, V. Prevot*

Neuroglial interactions and cell plasticity through proto-oncogenes of the ErbB family

V. PREVOT, Lille, France

Stability of the astrocyte phenotype and cancerous transformation

M.P. JUNIER, Paris, France

Shared genetic functions for normal and cancer neural stem cells?

The Sox2 transcription factor case

S.K. NICOLIS, Milan, Italy

Cancer stem cells CD133 and hypoxia

R. BJERKVIG, Bergen, Norway

Molecular subgrouping of glioma cancer stem cells

K. LAMSZUS, Hamburg, Germany

18:00-19:00

Plenary Lecture 6

HALL BINET

Chair: *J.A. Girault, Paris, France*

Regulation of blood vessel patterning and guidance

A. EICHMANN, Collège de France, Paris, France

Friday, September 11, 2009

- 09:00-10:00 **Plenary Lecture 7**
HALL BINET Chair: *B. Castellano, Barcelona, Spain*
Glial cells as regulators of CNS plasticity and regeneration
M. SCHWAB, Brain Research Institute, Zurich, Switzerland
- 10:00-10:30 *Coffee Break and Exhibition in the Grand Hall*
- 10:30-12:30 **Symposium 14**
HALL WEISS **Mechanisms of Ion Channel Localization on Myelinated Axons**
Organizer: *M.N. Rasband*
Mechanisms of CNS node of Ranvier Formation
M.N. RASBAND, Houston, USA
Axon-glia interactions at nodes of Ranvier
E. PELES, Rehovot, Israel
Organizing ion channels at the axonal initial segment and in the nodes of Ranvier
B. DARGENT, Marseille, France
Role of neurofascins in ion channel clustering
P. BROPHY, Edinburgh, UK
- HALL BINET **Symposium 15** *Supported by COST Neurinfnet*
How Inflammatory and Degenerative Insults Alter Gliogenesis and Neurogenesis in the Adult Central Nervous System
Organizers: *G. Martino, A. Monsonogo*
Neural stem cell transplantation in autoimmune demyelination
G. MARTINO, Milan, Italy
Regulation and function of neurogenesis in the adult central nervous system
S. WOLF, Zürich, Switzerland
IFN-g enhances neurogenesis in a mouse model of Alzheimer's disease
A. MONSONEGO, Beer-Sheva, Israel
Immune cells control adult brain plasticity: cognition, neurogenesis, and metal capability
M. SCHWARTZ, Rehovot, Israel
Neurogenesis in the adult brain after ischemic stroke
L. KOKAIA, Lund, Sweden

HALL DELMAS **Symposium 16**

Glial Influences in Amyotrophic Lateral Sclerosis Progression: Disease Pathology and Cell-Based Therapeutics

Organizers: *N. Maragakis, S. Boillée*

Focal astrocyte replacement via glial precursor transplantation is neuroprotective in ALS

N. MARAGAKIS, Baltimore, USA

Identification of astrocytic factors that modulate motor neuron survival in animal models of ALS

L. BARBEITO, Montevideo, Uruguay

The role of microglia in ALS caused by superoxide dismutase mutations

J.P. JULIEN, Quebec, Canada

Microglial contribution in mutant SOD1 induced motor neuron disease in rodent models of amyotrophic lateral sclerosis

S. BOILLEE, Paris, France

Aspects of glial involvement in amyotrophic lateral sclerosis

W. ROBBERECHT, Leuven, Belgium

12:30-13:30 *Lunch in the Grand Hall*

12:30-15:30 **Posters Sessions in the Grand Hall**

15:00-15:30 *Coffee Break and Exhibition in the Grand Hall*

15:30-17:30 **Symposium 17**

HALL BINET **Endogenous Regulation of Microglial Activation in CNS Disease**

Organizer: *R. Swanson*

Microglia in neurological disease; regulation by zinc and PARP-1

R. SWANSON, San Francisco, USA

Neurotransmitter control of microglia activation in disease

J.M. POCOCK, London, UK

Control of microglial/macrophageal function by the CNS endocannabinoid system

O. ULLRICH, Zurich, Switzerland

Effects of pyruvate, hypothermia, and Hsp70 on NF- κ B mediated microglial responses

M. YENARI, San Francisco, USA

Role of NADPH oxidase mediated chronic microglial activation after traumatic brain and spinal cord injury

B. STOICA, Washington, USA

HALL DELMAS

Symposium 18

Supported by COST Myelinet and ISN

ISN Symposium on Axon-Oligodendrocyte Signalling and the Regulation of Myelination

Organizers: *D. Attwell, T. Wood*

Regulation of oligodendrocyte development and myelination by non-vesicular, activity-dependent release of neurotransmitter from axons
D. FIELDS, Bethesda, USA

Synaptic communication between axons and NG2+ cells in white matter
M. KUKLEY, Tuebingen, Germany

Neurotransmitter signalling to oligodendrocytes and their precursors in myelination and demyelination
R. KARADOTTIR, Cambridge, UK

The PI3K/Akt mTOR pathway in oligodendrocyte differentiation
T. WOOD, Newark, USA

Regulation of oligodendrocyte progenitor cell migration by neurotransmitters, integrins and the myelin proteolipid protein
W. MACKLIN, Aurora, USA

HALL WEISS

Symposium 19

Supported by COST Myelinet

The Pelizaeus Merzbacher Disease Phenotype: Pathophysiology and Therapy

Organizers: *C.K. Abrams, I. Duncan*

Connexins in myelinating Glia: pathogenesis of Pelizaeus-Merzbacher-like disease (PMLD) and hereditary spastic paraparesis (HSP).
C.K. ABRAMS, Brooklyn, USA

Clinical aspects of PMD that will have consideration in future therapeutic trials
O. BOESPFLUG-TANGUY, Clermont-Ferrand, France

The influence of the rumpshaker PLP on myelin composition and stability
M. MCLAUGHLIN, Glasgow, UK

The therapeutic potential of RNA interference in the PLP-transgenic rat, an animal model of Pelizaeus-Merzbacher disease
E. LARSEN, Madison, USA

Therapeutic attempts in a mouse model for Pelizaeus-Merzbacher disease
H.B. WERNER, Göttingen, Germany

18:00-19:00

Plenary Lecture 8

HALL BINET

Chair: *A. Bessis, Paris, France*

Lysosomal exocytosis in glial cells: physiological and pathological relevance
S. DUAN, Chinese Academy of Sciences, Shanghai, China

Saturday, September 12, 2009

09:00-10:00 **Closing Plenary Lecture 9**
HALL BINET Chair: *D. Theodosis, Bordeaux, France*
**Cross-talk between parenchyma and glial cells:
highlights in brain tumors**
*V. MOURA-NETO, Universidade Federal do Rio de
Janeiro, Rio de Janeiro, Brazil*

10:00-10:30 *Coffee Break and Exhibition in the Grand Hall*

10:30-12:30 **Symposium 20**
HALL BINET **Astrocyte Development and Functions in the
Normal and Pathological Brain**
Organizers: *C. Giaume, V. Gallo*

**Novel roles for endothelin-1 in glia during
development and after injury**
A. GADEA, Washington DC, USA

**Hemichannel activation in astrocytes studied from
LPS-treated hippocampal slices**
C. GIAUME, Paris, France

**Neuron-astrocyte signaling in gabaergic
synaptogenesis.**
E.G. HUGHES, Philadelphia, USA

**Astrocytes as stem and progenitor cells - a new view
on reactive gliosis**
M. GOETZ, München, Germany

HALL DELMAS **Symposium 21**
Gliotransmitters and Synaptic Plasticity
Organizers: *A. Araque, JP. Mothet*

**Endocannabinoids mediate neuron-astrocyte
communication**
A. ARAQUE, Madrid, Spain

**Functional microdomains control glutamate
exocytosis from astrocytes**
P. BEZZI, Lausanne, Switzerland

**Vesicular storage and release of the gliotransmitter
D-serine from cortical astrocytes**
M. MARTINEAU, Bordeaux, France

The role of glial TNF α in homeostatic synaptic scaling
R. MALENKA, Palo Alto, USA

**Astrocytes potentiate transmitter release at single
hippocampal synapses**
G. PEREA, Madrid, Spain

Microglial Renewal in Health and Disease

Organizers: *S. Nataf, B. Finsen*

Microglial renewal in multiple sclerosis and its animal model

S. NATAF, Lyon, France

Myeloid cells during brain diseases

M. PRINZ, Freiburg, Germany

Microglial response to acute and chronic neuropathology

B. FINSEN, Odense C, Denmark

Microglial senescence and degeneration in the pathogenesis of neurodegenerative disease

W. STREIT, Gainesville, USA

Lessons from ablating microglia in CNS disorders

F. HEPPNER, Berlin, Germany

12:30

Conference Closes