37th European Winter Conference on Brain Research

Les Arcs 1800, France

March 4-10, 2017

ewcbr2017@gmail.com

SERVIER

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8, Traverse Fontaine de Caylus
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*** HOTEL ACCOMODATIONS:**

Hotel du Golf
Les Arcs 1800, France
Check-in: 16:40; Check-out: 10:00

*** SCIENTIFIC REGISTRATION:**

Christelle BAUNEZ & Mickael DEGOULET:

Saturday, March 4: 16:30-19:30 & Sunday, March 5: 8:30-10.30; 17-19:30.

*** OPENING OF THE 37TH EWCBR WINTER CONFERENCE**

Christophe BERNARD, Président of Promotion des Neurosciences Européennes

Sunday March 5th, 16:30.

Session 9 is sponsored by SERVIER (Fr) and Moleac (Singapour).

PROGRAMME AT A GLANCE

	Saturday 4th	Sunday 5th	Monday 6th		Tuesday 7th		Wednesday 8th	Tursday 9th	Friday 10th
8h30			**Session 2**	**Session 3**	**Session 6**	**Session 7**	**Session 10**	**Session 12**	
			Dysfunction in episodic brain disorders: genetics and models (Chairs: E. Tolner & A. van den Maagdenberg)	**New treatments for those on the slippery slope of addiction** (Chairs: M. Naassila & V. Van Waes)	**Reward and Decision Making** (Chair: W. Schultz)	**Brain function, inflammation and pain regulation** (Chair: J. Axelsson)	**The role of the STN in emotional processing and new therapeutic approaches** (Chair: D. Grandjean)	**The many faces of microglia cells in health and disease** (Chairs: A. Bessis & H. Hirbec)	
9h30			Arn van den Maagdenberg (NL)	Mickael Degoulet (FR)	Paul Apicella (FR)	Eva Kosek (SE)	Christelle Baunez (FR)	Coralie-Anne Mosser (FR)	**Departure**
			Antoinette Maassen van den Brick (NL)	Vincent Van Waes (FR)	Christian Lüscher (CH)	Angelica Sandström (SE)	Damien Benis (CH)	Alain Bessis (FR)	
			Else A. Tolner (NL)	Mickael Naassila (FR)	Mathias Pessiglione (FR)	Bianka Karshikoff (SE)	Lars Wojtecki (DE)	Anne Roumier (FR)	
10h30			Michel van Putten (NL)		Wolfram Schultz (UK)	Sigrid Elsenbruch (DE)	Didier Grandjean (CH)	Hélène Hirbec (FR)	
		President's words							
16h30		**Session 1**	**Session 4**	**Session 5**	**Session 8**	**Session 9**	**Session 11**	**Session 13**	
		Young investigators: To ignite constructive discussions (Chairs: Z-J. Klaft & A. Maslarova)	**Opto/genetic manipulations to dissect the reward system** (Chair: C. Baunez)	**Epilepsy: new mechanims and new therapeutic approaches** (Chairs: R.Pumain & C. Wasterlain)	**Disease avoidance: mechanisms, behavioral consequences and clinical ramifications** (Chair: M. Lekander)	**From myocardial Infarction to stroke: mechanisms, common pathways and novel pharmacological targets** (Chairs: J. Nargeot & M.Ladzunski)	**Inflammation, brain and behavior** (Chair: J. Lasselin)	**Cognition on the slopes of addiction** (Chairs: M. Solinas & T. Pattij)	
17h30	**Welcoming and registration**	Anna Maslarova (DE)	Christian Lüscher (CH)	Christophe Bernard (FR)	Mats Lekander (SE)	Christophe Piot (FR)	Neil Harrison (UK)	Bianca Jupp (UK)	
		Zin-Juan Klaft (DE)	Alix Tiran-Cappello (FR)	Olaf Paulson (DN)	John Axelsson (SE)	Stéphanie Barrere-Lemaire (FR)	Harald Engler (DE)	Tommy Pattij (NL)	
		Gürsel Caliskan (DE)	Camilla Bellone (CH)	Denson Fujikawa (USA)	Mats J. Olsson (SE)	Catherine Heurteaux (FR)	Julie Lasselin (DE)	Marcelo Solinas (FR)	
18h30		Aaron Friedman (USA)	Philippe Faure (FR)	Andre Obenaus (USA)	Erik Hedman (SE)	Bernaudin Myriam (FR)	Mats Lekander (SE)	Ingo Willuhn (NL)	
				Claude Wasterlain (USA)		Lazdunski Michel (FR)	Martin Hadamitzky (DE)		
		WELCOMING APERITIF			**Poster session**		Manfred Schedlowski (DE)		
19h30	**DINNER**	**DINNER**	**DINNER**		**DINNER**		**DINNER followed by the Keynote Lecture**	**SAVOYARD DINNER**	
							Gustavo Deco (21h-22h): Novel concept of intrinsic ignition characterizes the broadness of communication underlying different brain states		

SESSION 1

(Sunday 5th, 16:30-18:30)

New perspectives:
A young investigator session to ignite constructive discussions

Organizer: Zin-Juan Klaft & Anna Maslarova

Abstract:

The session provides an opportunity for younger scientists to present their results and concepts to a more experienced audience. The unique setting of the EWCBR can stimulate honest, constructive and lively discussions among the participants of the meeting well beyond March 2017. Being able to present and receive feedback at this conference is a superb and scarce opportunity for younger neuroscientists to „test" their results, interpretations and possibly bold ideas. An open discourse during a critical time in a scientist's academic development is inestimable value and the meeting provides an inspiring low-barrier atmosphere to actively engage in the needed discourse.

This session is specifically meant to help ignite discussions by providing a forum for younger speakers. Ideally, debates will start during the presentation and possibly both - experienced and younger scientists - could be inspired to develop multiple perspectives on scientific themes.

Speakers:

*** Anna Maslarova**: Altered properties of sharp-wave-ripples in the subiculum of mice that underwent kainate-induced status epilepticus.

*** Zin-Juan Klaft**: Purinergic modulation of epileptiform activity in rodent and human neocortex slices – New tricks for an old pony?

*** Gürsel Caliskan**: Critical role of ventral hippocampal parvalbumin interneurons in fear memory persistence: Insights into network mechanisms.

*** Aaron Friedman**: Age-related decline in the blood-brain barrier as a cause of epilepsy and cognitive impairment in the elderly.

SESSION 2

(Monday March 6th, 8:30-10:30)

Dysfunction in episodic brain disorders: genetics and models

Organizers: Else A. Tolner & Arn van den Maagdenberg

Abstract:

Common episodic brain disorders epilepsy, stroke and migraine are caused by dysregulated function of neuronal and vascular pathways, but it is still an enigma to what extent the pathophysiology of these disorders is overlapping and can co-occur in patients. For example, energy deprivation results in failure of various neuronal processes, ranging from synaptic failure, membrane depolarization or cell swelling to neuronal death and this is associated with e.g. spreading depressions or depolarisations and changed cortical excitability. The session will be a platform to discuss recent genetic, vascular, and neurophysiological aspects of these common episodic brain disorders and how they lead to clinical symptoms, including the co-occurrence of them. Speakers will address how translational findings from human, animal, cellular, and computational models, combined with clinical features, may enhance the understanding of clinical and therapeutic features of these diseases.

Speakers:

* **Arn van den Maagdenberg**: Dissecting episodic brain disorders through their comorbidities: evidence for shared genes and mechanisms?
* **Antoinette van den Brick**: Migraine: the role of blood vessels.
* **Else Tolner**: Neurobiological mechanisms of episodic brain dysfunction: linking neuronal excitability to spreading depression and seizures.
* **Michel van den Putten**: Monitoring and modeling neuronal dynamics after energy deprivation.

SESSION 3

(Monday March 6th, 8:30-10:30)

New treatments for those who are on the slippery slope of addiction

Organizers: Mickael Naassila & Vincent van Waes

Abstract:

Addiction is a devastating disease characterized by a loss of control, a compulsive use and a high rate of relapse. A recent report indicated that the total cost of addiction in France is about 250 billion euros. Deciphering the neurobiological bases of the disease and finding new pharmacotherapies are a pressing need. The symposium will cover several aspects such as the vulnerability (to consume drugs of abuse and escalation of intake) and different therapeutic approaches regarding addiction to different drugs of abuse.

Speakers:

*** Mickael Degoulet**: Deep brain stimulation of the subthalamic nucleus in cocaine-induced addiction-like behaviors in rats.

*** Vincent van Waes**: Transcranial direct current stimulation on addiction-related behaviors in mice.

*** Mickael Naassila**: N-AcetylCysteine as a new treatment for alcohol use disorder.

SESSION 4

(Monday March 6th, 16:30-18:30)

Opto/genetic manipulations to dissect the reward circuit

Organizer: Christelle Baunez

Abstract:

The symposium aims at illustrating how the use of genetic and optogenetic tools has recently helped to better understand some aspects of the reward circuit.

Speakers:

*** Christian Lüscher**: Optogenetic tools to decipher reinforcement mechanism of heroin.

*** Alix Tiran-Cappello**: Manipulations of the subthalamic nucleus regulate motivation for sweet rewards: a comparison with electric high frequency stimulation data.

*** Camilla Bellone**: Role of dopamine neurons and synaptic plasticity in specific aspects of social behaviours both in physiological and pathological conditions (ASD-related models).

*** Philippe Faure**: Dopamine neuronal activity in mice lacking nicotinic receptors.

SESSION 5

(Monday March 6th, 16:30-19:00)

Epilepsy: new mechanisms and new therapeutic approaches

Organizers: René Pumain and Claude Wasterlain

Abstract:

Christophe Bernard will show that animals rendered vulnerable to depression after a past stressful event can be rescued after epileptogenesis onset. Treatment with an antioxidant agent several days after status epilepticus prevented the occurrence of a depression-like phenotype and of cognitive deficits in vulnerable animals. Using concurrent EEG and fMRI, Olaf Paulson will discuss new directions for pre-surgical evaluation of intractable epilepsy. In focal epilepsy, it has potential benefits for the localization of the epileptogenic zone. However, the occurrence of interictal epileptic discharge in the EEG occurs irregularly and renders the correlation to the fMRI response quite complex. Therefore, high speed fMRI methods are desirable in order to improve the timing of hemodynamic response. He will discuss the safety aspects of the EEG recording with multiple electrodes and wires in the MR scanner as well as the quality of the EEG recorded in a strong magnetic field. EEG-fMRI can be considered as a safe procedure as heating related to the electrodes is minor. Andre Obenaus used high-magnetic- field MRI to seek clinically relevant noninvasive markers of epileptogenesis and found that reduced amygdala T2 relaxation times in high-magnetic- field MRI hours after FSE predicted epileptogenesis. Denson Fujikawa will talk about what is known about the excitotoxic and the necroptotic pathways in acute neuronal injury, focusing on cerebral ischemia. Claude Wasterlain will discuss seizures in neonates using a new model of status epilepticus in P7 (post-natal day 7) rat pups. For years, the presence in the neonatal brain of synapses where GABA is excitatory has generated speculations that GABA and GABAergic drugs (which are the gold standard for treating neonatal seizures) could make seizures worse and could aggravate seizure-associated neuronal injury. Since this new P7 model results in extensive neuronal injury, it offers for the first time a chance to test that possibility.

Speakers:

*** Christophe Bernard**: Prevention of depression and cognitive deficits after epilepsy onset in vulnerable individuals.

*** Olaf Paulson**: New directions for pre-surgical evaluation: Concurrent EEG-fMRI.

*** Andre Obenaus**: Temporal evolution of an MRI-based biomarker for epileptogenesis.

*** Denson Fujikawa**: Excitotoxicity and necroptosis, two programmed necrotic pathways: separate or convergent?

*** Claude Wasterlain**: Treatment of neonatal seizures with $GABA_A$ agonists: a double-edge sword?

SESSION 6

(Tuesday March 7th, 8:30-10:30)

Reward and decision-making

Organizer: Wolfram Schultz

Abstract:

The session will cover different aspects of reward function in decision-making.

Speakers:

* **Paul Apicella**: Reward neurons on the striatum of awake monkeys.
* **Christian Lüscher**: Rewarding and aversive components of addictive drugs.
* **Mathias Pessiglione**: Human imaging during economic decisions.
* **Wolfram Schultz**: Behavioural and neuronal aspects of specific forms of reward risk.

SESSION 7

(Tuesday March 7th, 8:30-10:30)

Brain function, inflammation and pain regulation

Organizer: John Axelsson

Abstract:

In understanding pain regulatory mechanisms, both peripheral and central inflammatory mechanisms have been increasingly investigated during recent years. During inflammatory activation, local and systemic processes affect peripheral nerve endings and central pain regulatory systems in concert, resulting in increased pain sensitivity and spontaneous pain. Such phenomena can be studied with experimental provocations in animals as well as in humans, but converging data also stem from studies of inflammatory processes in patients suffering from chronic pain or chronic inflammation. In addition, relevant knowledge of pain regulation is gained from complementary experimental models, as for example to study responses to visceral pain with neuroimaging methods. The session will review findings, present data and discuss methods used to study pain regulation in healthy participants as well as in patient models.

Speakers:

* **Eva Kosek**: Treatment effects on cerebral pain processing in fibromyalgia.
* **Angelica Sandström**: Pain regulation in patients with rheumatoid arthritis.
* **Bianka Karshikoff**: Severe seasonal allergy and pain sensitivity.
* **Sigrid Elsenbruch:** Visceral pain: What have we learned from 20 years of brain imaging?

SESSION 8

(Tuesday March 7th, 16:30-18:30)

Disease avoidance: mechanisms, behavioral consequences and clinical ramifications

Organizer: Mats Lekander

Abstract:

In the perpetual race between evolving organisms and pathogens the human immune system has evolved to reduce the toll of infections. Inevitably, behavioral avoidance of contagious individuals would be cost effective. Statistical models show substantial disease containing effects from small adaptations in patterns of inter-individual contact. Recent research has shown that humans, akin to animals, can detect subtle perceptual cues of sickness just hours after experimental induction of systemic inflammation. In animals, such detection regulates interindividual contact, with avoidance as a main response to reduce contagion. In humans, disease-related stimuli trigger avoidance and negative attitudes that are particularly easy to generalize towards unfamiliar individuals. In the present session, support for disease avoidance mechanisms will be reviewed. Recent findings concerning perceptual cues through which human disease detection can occur will be presented, as well as findings on neural circuits that underlie multisensory integration of disease cues. In addition, findings on immune consequences of disease detection will be presented. Lastly, the clinical ramifications of hypersensitive disease avoidance mechanisms will be discussed, as well as how such hypersensitivity can be treated with behavioral therapy.

Speakers:

* **Mats Lekander**: Introduction to behavioral immune defences.
* **John Axelsson**: Influences of inflammation on appearance and behaviour.
* **Mats J. Olsson**: Olfaction, inflammation and disease avoidance.
* **Erik Hedman**: Health anxiety, exposure treatment and disease avoidance.

SESSION 9 sponsored by SERVIER & Moleac (singapour)

(Tuesday March 7th, 16:30-18:30)

From myocardial infarction to stroke: mechanisms, common pathways and novel pharmacological targets

Organizers: Joel Nargeot & Michel Lazdunski

Abstract:

Early studies have shown that the mechanisms of ischemic brain injury have many aspects similar to those of myocardial ischemic injury. The primary therapeutic strategy is to reopen the occluded blood vessels to allow early reperfusion. Ischemic Preconditionning, an endogenous protective strategy described in 1986, strongly reduces ischemic damage in both the heart and the brain. It refers to application of a brief repeated episodes of ischemia that prevents ischemic injury caused by a prolonged lethal ischemia. More recently, ischemic postconditionning consisting in brief mechanical occlusions and openings of the coronary artery at reperfusion after a prolonged cardiac or brain ischemia was shown to strongly reduce infarct size in vivo in animal models and in humans. Some endogenous mechanisms targeted by these protective strategies are common in MI and stroke. The session will highlight novel pharmacological approaches providing cardioprotection and neuroprotection.

Speakers:

* **Christophe Piot**: An overview on cardioprotection: where do we stand on the fundamental and clinical point of view.

* **Stéphanie Barrere-Lemaire**: Glutamate cardioprotection via mGluR1 cardiac receptors in acute myocardial infarction.

* **Catherine Heurteaux**: Omega 3 polyunsaturated fatty acids: a therapy against stroke.

* **Myriam Bernaudin**: RGTA-based matrix therapy: a promising neuroprotective and regenerative approach for stroke.

* **Michel Lazdunski**: Traditional chinese medicine: a promising neuroprotective and neuroregenerative therapy against stroke and associated diseases.

POSTER SESSION

(Tuesday March 7th, 18:30-19:30)

Psychomotor performance of police officers working rotating shifts is affected by their work schedule

Diane B. Boivin, MD, PhD, Fernando Gonzales, MD, and Philippe Boudreau, PhD

Centre for Study and Treatment of Circadian Rhythms, Douglas Mental Health University Institute, Department of Psychiatry, McGill University, Montreal, Quebec, Canada.

Working on atypical schedules leads to sleep-wake and circadian disturbances. The aims of the present study was to document police officers under real working conditions in order to address how work duration, work scheduling, and their sleep/wake cycle affects their psychomotor performances.

A total of 25 municipal police officers aged 31.3 ± 4.5 years (mean ± SD) participated to a 35-day field study. Their rotating schedule comprised 9- or 12-hour day (0700-1600 or 0700-1900), evening (1500-2400), and night (2230-0730 or 1900-0700) shifts, alternating with rest days. Throughout the study period, police officers completed a 5-min psychomotor performance task (PVT) at the start and end of each work shift. Only 9-h shifts were considered in the present analyses for a total of 5 day, 5 evening, and 5 night shifts per participant. Mean reaction time and response speed were analysed using a mixed linear model with shift type and shift time as factors.

A significant main effect of shift type was observed for PVT parameters ($p \leq 0.002$), with the best performances occurring during the evening shifts compared to night ($p \leq 0.003$) or day shifts ($p \leq 0.01$). Performances significantly deteriorated from the start to the end of shifts ($p \leq 0.025$). The shift type x time interaction was significant for the mean response speed ($p=0.016$). Specifically, reaction speed was significantly lower at the start of a day vs. of an evening shift ($p=0.005$). Reaction speed tended to deteriorate from the start to the end of night shifts ($p=0.057$) and it tended to be lower at the end of night shifts compared to the end of evening shifts ($p=0.087$).

Police officers presented their lowest performance scores at the end of night shifts but also at the start of day shifts. This time-of-day coincides with the circadian nadir of performance in individuals living on a day-oriented schedule. These observation suggest the circadian system of rotating shift workers is a main contributor to their impaired performances and remains mostly adjusted to a day-oriented schedule. This work has practical implications in terms of work safety as it identified critical times of reduced performances.

Molecular Basis of the Neurosteroid Inhibitory Effect on N-Methyl-D-Aspartate Receptors

Vyklicky V_1, Krausova B_1, Korinek M_1, Horak M_1, Vales K_1, Cerny J_1, Chodounska H_2, Kudova E_2, Vyklicky L_1

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N-methyl-D-aspartate (NMDA) receptors (NMDARs) are a major class of excitatory neurotransmitter receptors in the central nervous system. They form glutamate-gated ion channels that are highly permeable to calcium and mediate activity-dependent synaptic plasticity. NMDAR dysfunction is implicated in multiple brain disorders, including stroke, various forms of neurodegeneration, chronic pain and schizophrenia. NMDAR activity is modulated by allosteric modulators including endogenous neurosteroids pregnenolone sulfate and 20-oxo-5β-pregnan-3α-yl sulfate (PA-S) and their synthetic analogues. In accord with the neurosteroid effect at NMDARs is their behavioral effect in animal models of human diseases including e.g. neuroprotective and antipsychotic activity. In this contribution we identify molecular basis of the neurosteroid use-dependent and voltage-independent inhibitory effect of NMDAR responses. The site of action is located at the extracellular vestibule of the receptor's ion channel pore and is accessible after receptor activation. Mutations in the extracellular vestibule in the SYTANLAAFLV motif, highly conserved residues throughout the glutamate receptor family, disrupt the inhibitory effect of PA-S and other negatively charged steroids. In contrast positively charged steroids inhibit mutated NMDAR responses in a voltage-dependent manner. These results in combination with molecular modelling were used to infer on the structure of the open configuration of the NMDAR channel and recognize molecular steps in the transition from closed to the open state. Our results provide a unique opportunity for the development of new therapeutic, neurosteroid-based ligands to treat diseases associated with dysfunction of glutamate system.

This work was supported by the Czech Science Foundation (GACR): 17-02300S, *P304/12/G069, Technology Agency of the Czech Republic: TE01020028.*

SESSION 10

(Wednesday March 8th, 8:30-10:30)

The role of the subthalamic nucleus in emotional processing: new insights from animal and human research

Organizer: Didier Grandjean

Abstract:

The role of the basal ganglia and more specifically the subthalamic nucleus (STN) in nonmotor functional aspects such as emotional processing has been recently documented through different approaches including animal and human research. In this symposium the contributors will discuss the nonmotor role of the STN informed by behavioral and lesion approaches in animal but also behavioral and intracranial recordings in humans.

Speakers:

*** Christelle Baunez**: Involvement of the rat's STN in emotional processes assessed by behavioral measure of affective responses to positive and negative reinforcers.

*** Damien Benis**: A neural oscillatory code for emotional prosody in the parkinsonian subthalamic nucleus.

*** Lars Wojtecki**: Involvement of the STN in various cognitive aspects, especially those related to executive functions using intracranial recordings in humans.

*** Didier Grandjean**: STN intracranial recordings in humans during emotional processing, especially in the auditory domain showing STN modulations at different frequencies.

SESSION 11

(Wednesday March 8th, 16:30-19:30)

Inflammation, brain and behavior

Organizer: Julie Lasselin

Abstract:

The bi-directional relationships that exist between the brain and the immune system have been studied for many years. This in the aim of understanding physiological mechanisms but also at a pathological level. Inflammation is believed to contribute to the development of neuropsychiatric diseases, and a better comprehension of the central role of inflammatory states and its behavioral consequences is crucial to understand the pathophysiology of these diseases and implement therapeutic strategies. Conversely, the central nervous system is able to modulate immune functions, such as shown with placebo inhibition of the immune system, with great therapeutic potentials notably in transplant patients. The involved speakers will provide recent insights on these issues.

Speakers:

*** Neil Harrison**: Amygdala reactivity to emotional stimuli is enhanced following acute inflammation (Interferon-alpha) and attenuated following cytokine blockade (anti-TNF therapies).

*** Harald Engler**: The footprints of experimental endotoxemia in the brain.

*** Julie Lasselin**: Expectation shapes the behavioral response during sickness.

*** Mats Lekander**: Central and peripheral inflammation in allergy and common mental illness: seasonal variation and response to treatment.

*** Martin Hadamitzky**: Neurobehavioral effects of immunosuppressive agents.

*** Manfred Schedlowski**: Placebo modulation of the immune system.

Keynote Lecture

(Wednesday March 8th, 21:00-22:00)

Gustavo Deco

Chair: Christophe Bernard

Novel concept of intrinsic ignition characterizes the broadness of communication underlying different brain states

A given brain state could be defined by the broadness of communication, i.e. the dynamical complexity of the underlying network activity sustained by a static structural anatomical connectome. We present here a novel concept, intrinsic ignition, that can be used to characterise this broadness of communication underlying different brain states. The key idea is to study naturally occurring intrinsic ignition events which reflect the capability of a given brain area to propagate neuronal activity to other regions. For each intrinsic ignition event in each brain region, we can compute the elicited level of integration over a given time window which can then be averaged over all events to characterise the ignitory capability of that brain region. We demonstrate the power of the intrinsic ignition concept by applying it to human neuroimaging data of sleep and wakefulness and show this method significantly distinguishes these two brain states. Furthermore, we use whole-brain computational modelling of this empirical data to show that at the optimal working point of the model we also find the maximal variability of the intrinsic ignition across brain regions. We propose that combining this powerful new data-driven method with a causal whole-brain computational model can provide novel insights into underlying mechanisms of different brain states including sleep and wakefulness.

SESSION 12

(Thursday March 9th, 8:30-10:30)

The many faces of microglial cells in health and disease

Organizers: Alain Bessis & Hélène Hirbec

Abstract:

The bi-directional relationships that exist between the brain and the immune system have been studied for many years. This in the aim of understanding physiological mechanisms but also at a pathological level. Inflammation is believed to contribute to the development of neuropsychiatric diseases, and a better comprehension of the central role of inflammatory states and its behavioral consequences is crucial to understand the pathophysiology of these diseases and implement therapeutic strategies. Conversely, the central nervous system is able to modulate immune functions, such as shown with placebo inhibition of the immune system, with great therapeutic potentials notably in transplant patients. The involved speakers will provide recent insights on these issues.

Speakers:

*** Coralie-Anne Mosser**: Microglial cells regulate the development of cortical synapses.

*** Alain Bessis**: Microglial regulation of inhibitory synapses.

*** Anne Roumier**: Role of microglial 5-HT2B serotonin receptor in neuroinflammation and adaptive behavior induced by systemic inflammation.

*** Hélène Hirbec**: Use of laser microdissection and RNAseq approaches to unravel the diversity of microglial cell in Alzheimer Disease.

SESSION 13

(Thursday March 9th, 16:30-18:30)

Cognition on the slopes of addiction

Organizers: Marcelo Solinas and Tommy Pattij

Abstract:

Cognition and addiction are closely interrelated in part given the overlapping neural correlates of both phenomena. In recent years, focusing on the cognitive aspects of addiction is emerging as a novel approach to intervene in addiction. This symposium will focus on new insights into the involvement of various cognitive functions in drug addiction, as well as novel treatment opportunities by targeting these cognitive functions.

Speakers:

*** Marcelo Solinas**: Behavioral flexibility and addiction.

*** Tommy Pattij**: Decision-making predisposes different aspects of volitional self-administration of both stimulant and depressant drugs in rats.

*** Bianca Jupp**: Novel mechanisms underlying the expression of action impulsivity in rats.

*** Ingo Willuhn**: real-time electrochemical data characterizing the spatiotemporal profile of striatal dopamine release during cocaine self-administration.

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