40th European Winter Conference on Brain Research

Villars-sur-Ollon, Switzerland Eurotel Victoria March 7-14, 2020

ewcbr2017@gmail.com



website



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* SECRETARIAT & CORRESPONDENCE:

Promotion des Neurosciences Européennes, c/o C. Baunez 8, Traverse Fontaine de Caylus 13002 MARSEILLE, France

*** SCIENTIFIC REGISTRATION:**

Eurotel Victoria Villars-sur-Ollon, Switzerland Christelle BAUNEZ, Mickael NAASSILA & Christophe BERNARD: Saturday, March 7th : 16:30-19:30 at the bar of the hotel & Sunday, March 8th : 8:30-9.00; 17:00-18:30 (table in the hotel lobby)

* OPENING OF THE 40TH EWCBR WINTER CONFERENCE

Christophe BERNARD, President of Promotion des Neurosciences Européennes

Sunday March 8th, 18:30-18:45

Appetizer will precede the dinner

PROGRAMME AT A GLANCE

This year we celebrate the 40th EWCBR, there will be more social events than usually, get ready!

Planning To Be Confirmed

Monday 9th after dinner: Young investigator social

Fun activity with junior researchers (but more senior are also welcome). The activity will depend on what is possible at the hotel, it could be eg Karaoke, billiard... Anything that would allow the young investigators to interact easily between them but also with the olders!

Tuesday 10th after dinner: "Meet-the-PI"

After-dinner session in the bar in small groups with 1-2 PIs each. Free topics, but we will provide suggestions for topics (e.g., career path, grants, work-life balance, etc).

Thursday 12th after dinner: competition of bowling or curling

Friday 13th: special anniversary dinner with music and dance

EWCBR 2020 - attendees and symposia proposals

Will attend:

FALL Katja **ANDREASSON Anna** AXELSSON John Iérôme BADAUT BALTER Léonie BASHIR Zafar **BATTAGLIA-MAYER** Alexandra BAUNEZ Christelle **BENAKIS** Corinne **BENHAMIDA Sami** BENIS Damien BERNARD Christophe **BLUMENFELD Hal** BROWNE Liam CAMINITI Roberto CERVENKA Simon Véronique COIZET De TIMARY Philippe DULLA Chris **EIJKELKAMP** Niels **ELSENBRUCH Sigrid** ENGLER Harald FERRARI-TONIOLO Simone FETISSOV Serguei **FRENGUELLI Bruno** FUJIKAWA Denson Gregory FUNK **GHERSI-EGEA** Jean-François **GRANDJEAN** Didier HARIK Sami HARRISON Neil Cobi HEIJNEN **HERRON** Caroline Daniel HILL

HIRT Lorenz Henrik Børsting JACOBSEN **KARSHIKOFF** Bianka **KAVELAARS** Annemieke KONSMAN Jan-Pieter KOSEK Eva KRESTEL Heinz LEBRETON Mael LEKANDER Mats LINDSATER Elin LUCHINI Stéphane Kristoffer MANSSON MULKEY Daniel NACCACHE Lionel NAASSILA Mickael OLSEN Michelle PASTOR-BERNIER Alexandre PAULSON Olaf PEREIRA Michael PINTUS Patrick PONTEN Moa PRIVITERA PUMAIN Denise René PUMAIN RANDALL Andrew RUMMEL Christof Wolfram SCHULTZ SIKANDAR Shafaq Shireen SINDI VALDIMARSDOTTIR Unnur Anna VYKLICKY Ladislav WASTERLAIN Claude ZHOU Min

Symposium #1 : MONDAY 9th AM

Pain mechanisms and therapies: neuronal coding, plasticity and novel regulators

Chairs:

Annemieke Kavelaars & Niels Eijkelkamp

Summary:

Pain is common with chronic pain affecting nearly 20% of the adult population. Sensory neurons that convey nociceptive information show a remarkable plasticity in response to inflammation or injury even after original trauma has resolved. Despite a central role of neurons evidence also points toward intriguing roles of non-neuronal proteins and cells as regulators of pain. This symposium will review a number of recent advances in our understanding of the mechanisms of chronic pain and how these may be exploited for treatment. Dr. Liam Browne will discuss as to how nociceptor encoding generates a diversity of protective behaviours by employing optical system that enables remote microscale optogenetic stimulation of geneticallydefined cutaneous afferents in mice. Dr. Shafaq Sikander will discuss the contribution of distinct subsets of primary afferent populations and of circulating neutrophils in the transition from acute to chronic musculoskeletal pain in mice. She will discuss the pro-nociceptive role of neutrophils also by using data in a translational model of widespread pain in mice using humanderived tissue. Dr. Annemieke Kavelaars will reveal the role of PI16, a fibroblasts-derived protein as a novel player in the transition to chronic pain. She will present data from rodent studies indicating a key role of PI16, a protein that is produced by fibroblasts in the meninges of the DRG and in the perineurium in regulating leukocyte influx into the nerve and DRG in models of chronic pain. Dr. Niels Eijkelkamp will discuss the identification of the immune inhibitor receptor CD200R and its newly identified ligand iSec1 in sensory neurons as key docking system for macrophage-derived vesicles that are required to resolve inflammatory pain. We will end by a presentation by Dr. Cobi Heijnen on the role of IL-10 signalling to primary nociceptors in the resolution of neuropathic pain in response to nasal administration of mesenchymal stem cells.

Speakers and titles:

Liam Browne (University College London, UK): Nociceptor fast encoding generates a diversity of protective behaviours

Shafaq Sikandar (University College London, UK): Peripheral mechanisms of the transition from acute to chronic pain

Annemieke Kavelaars (MD Anderson Cancer Center, Houston, USA): PI16: a novel fibroblastderived regulator of chronic pain

Niels Eijkelkamp (University Medical Center Utrecht, Netherlands): Macrophages control endogenous pain resolution through Isec1, a novel ligand of CD200R

Cobi J. Heijnen (MD Anderson Cancer Center, Houston, USA): Nasal mesenchymal stem cell treatment reverses peripheral neuropathy via IL-10

Symposia #2 : MONDAY 9th AM

Alcohol use disorder: from microbiota to neurobiology and from preclinical data to treatment...

Chairs:

Mickael Naassila & Philippe de Timary Summary:

Philippe de Timary, (Department of Adult Psychiatry, Academic Hospital Saint-Luc and Institute of Neuroscience, UCLouvain : The gut microbiota, the inflammation and the brain in alcohol-use-disorders), will present recent convergent data from human and mice studies support the role of the gut microbiota in specific aspects of AUD as well as preliminary data from human studies that support the existence of important brain changes, possibly related to inflammation, during alcohol withdrawal.

Sami Ben Hamida (Douglas Mental Health University Institute, McGill University, Montreal, Canada), will present data on the Gpr88 gene that may represent a vulnerability/resilience factor for alcohol use disorders (AUD), and a potential drug target for AUD treatment. Gpr88 is an orphan G protein–coupled receptor originally characterized as a striatal-enriched transcript and is a promising target for neuropsychiatric disorders. Gpr88 deletion shapes brain functional connectivity and disrupts executive, reward, and emotional networks in a configuration that reduces the value of alcohol and increases alcohol wanting and taking behaviors.

Mickael Naassila (INSERM UMR 1247, Amiens, France - Binge drinking and vulnerability to addictive behaviors) will present recent work on binge drinking-like behavior in rats and the efficacy of the different enantiomers of baclofen in alcohol use disorders.

Speakers and titles:

Mickael Naassila (University of Picardie Jules Verne, Amiens, France): Binge drinking-like behavior in rat and efficacy of the different baclofen enantiomers.

Sami Ben Hamida (Douglas Mental Health University Institute, McGill University, Montreal, Canada), Is the Gpr88 gene a vulnerability/resilience factor for alcohol use disorders (AUD), and a potential drug target for AUD treatment?

Philippe de Timary, (Department of Adult Psychiatry, Academic Hospital Saint-Luc and Institute of Neuroscience, UC Louvain : The gut microbiota, the inflammation and the brain in alcohol-use-disorders

Symposium #3 : MONDAY 9th PM

Immune-brain interactions in Mice and Men

Chair:

Neil Harrison

Summary:

Actions of the immune system on the brain are increasingly implicated in a number of common mental illness, particularly depression and Alzheimer's disease. This is motivating development of novel immune-targeted therapies for use in psychiatry. In this session we shall review the pathways through which activation of the immune system in the body can impact on the brain with a particular focus on immune cell trafficking to the brain and activation of Microglia – the predominant brain immune cell. We shall review how inflammation induced experimentally using Endotoxin/ Lipopolysaccharide (LPS) impacts on brain function and behaviour. We will then discuss the merits and challenges of using the current 'gold-standard' in-vivo method for quantifying activated microglia in humans (TSPO PET), and present novel findings on how alternative MRI based techniques may provide complementary information and potentially a method for screening target engagement of microglial-targeted immunotherapies in humans.

Speakers and titles:

Christoph Rummel (Justus-Liebig-Universität Gießen, Germany): Immune-cell trafficking to the brain

Neil Harrison (Cardiff University, UK): Combined Endotoxin challenge, TSPO-PET and Microstructural MRI as a potential method for screening Microglial-targeted Immunotherapies in humans

Simon Cervenka (Karolinska Institutet, Stockholm, Sweden): Translocator Protein (TSPO) PET Imaging of Glial Cells: The good the bad and the ugly

Mats Lekander/Kristoffer Månsson (Karolinska Institutet & Stockholm University, Sweden): Structural MR Brain Imaging and psychological, physiological and immune responses to Endotoxin

Giada De Palma (McMaster University, Hamilton, Canada): Microbiome-gut-brain axis in mental health disorders

Symposia #4 : TUESDAY 10th AM

<u>Title:</u> Consciousness and Neurology: Mechanisms, Consequences and Neurostimulation

Summary:

Powerful advances in neuroimaging, electrophysiology and computation have provided new insights into mechanisms of normal consciousness and impaired consciousness in neurological disorders. In this symposium we will discuss how the same large-scale cortical and subcortical brain networks crucial for normal consciousness are disrupted in disorders such as vegetative state, minimally conscious state and epilepsy. Understanding mechanisms of impaired consciousness has major consequences for patient prognosis as well as real world implications including driving safety in people with epilepsy. Emerging data from patients and translational animal models suggest novel therapeutic approaches, such as neurostimulation of deep brain arousal circuits to restore consciousness when it is lost. The speakers will present the latest progress on these topics and will engage the audience in highly interactive participation and discussion.

Agenda:

From disorders of consciousness to a neuroscientific theory of consciousness Lionel Naccache, MD, PhD

Transient Impaired Consciousness: Interictal Epileptiform Discharges and Driving Safety Heinz Krestel, MD, PhD

Neuroimaging and Neurostimulation to Restore Consciousness in Epilepsy Hal Blumenfeld, MD, PhD

Faculty:

Lionel Naccache, MD, PhD Co-leader of Physiological Investigation of Clinically Normal & Impaired Cognition Team ICM Brain & Spine Institute Professor of Physiology Pitié Salpêtrière Hospital Paris, France email: <u>lionel.naccache@gmail.com</u>

Heinz Krestel, MD, PhD Instructor/Lecturer in Neurology Epilepsy Center Frankfurt Rhine-Main, University Hospital Frankfurt, Germany Marie Sklodowska Curie Actions Fellow of the European Commission Visiting Research Scientist, Yale University School of Medicine Department of Neurology New Haven, CT USA email: Heinz.krestel@yale.edu

Hal Blumenfeld, MD, PhD Loughridge Williams Professor Director, Yale Clinical Neuroscience Imaging Center (CNIC) Professor of Neurology, Neuroscience and Neurosurgery Yale University School of Medicine New Haven, CT USA email: <u>hal.blumenfeld@yale.edu</u>

Symposia #5 : TUESDAY 10th PM

Neuronal mechanisms of motivation: action and reward

Chair:

Wolfram Schultz

Summary:

Speakers and titles:

Roberto Caminiti, Rome: The action streams of the cerebral cortex and the local nature of command functions.

Alexandra Battaglia-Mayer, Rome: Two brains in action: joint-action coding in the primate frontal and parietal cortex.

Simone Ferrari-Toniolo, Cambridge: An axiomatic approach to neuronal reward and choice processing.

Daniel F. Hill, Cambridge: Dopamine reward value coding in an auction-like task.

Alexandre Pastor-Bernier & Wolfram Schultz, Cambridge: Single-dimensional neuronal signals in orbitofrontal cortex for two-dimensional choice options.

Symposium #6 : TUESDAY 10th PM

Title: New vistas in experience- and activity-dependent synaptic and intrinsic plasticity

Chairs: Bruno Frenguelli, University of Warwick b.g.frenguelli@warwick.ac.uk

Summary:

Multiple cellular and molecular mechanism exist to allow communication between neurones to be increased or decreased in response to prevailing synaptic activity. These mechanisms impart upon neurones the fundamental property of plasticity – the ability to respond to ongoing activity, and to support, at a network level, appropriate synaptic and behavioural adaptations, commonly reflected in the display of learning and memory across a range of cognitive tasks. Importantly, these plasticity mechanisms can become disturbed leading to the cognitive impairment associated with neurodevelopmental, psychiatric and neurodegenerative disorders.

This session will address various contemporary topics in plasticity, ranging from factors influencing experience-dependent genomic, molecular, cellular and behavioural adaptations, such as intracellular signalling cascades and neuropathological proteins, the changes that occur in fundamental intrinsic properties of neurones that underlie their ability to communicate with each other, the long-range interactions between brain regions involved in learning and memory and executive function, and the pharmacological remediation of plasticity deficits.

Bringing together a wide range of expertise and providing a platform for an up-andcoming Early Career Researcher, the session is an opportunity to discuss the importance of plasticity in a range of physiological and pathological contexts.

Speakers and titles:

Chair & Speaker 1: Bruno Frenguelli, University of Warwick b.g.frenguelli@warwick.ac.uk Molecular basis of experience-dependent synaptic and cognitive enhancement Early Career Researcher & Speaker 2: Lucy Privitera University of Edinburgh

lucy.Privitera@ed.ac.uk

Synaptic Tagging and Capture in the Living Rat: An in-vivo Approach to Unravel the Secrets of Hippocampal Memory Processes.

Speaker 3: Zafar Bashir, University of Bristol z.i.bashir@bristol.ac.uk

Transmission and plasticity at nucleus reuniens and hippocampal inputs onto prefrontal cortex pyramidal cells.

Speaker 4: Andy Randall, University of Exeter a.randall@exeter.ac.uk

Altered action potential properties in multiple dementia models and cell types: a contributor to circuit malfunction?

Speaker 5: Caroline Herron, University College Dublin caroline.herron@ucd.ie

Neuroprotective effects of phytocannabinoids in models of Alzheimer's disease

Symposia #7: WEDNESDAY 11th AM

Theme 2020 European Conference on Brain Research "Interdisciplinary Communication'

Title: Astrocytes support specialized neural circuits

Chairs: Michelle Olsen, PhD

Summary:

Astrocytes are functionally heterogenous and contribute to normal brain function by a variety of mechanisms including both homoeostatic maintenance of the extracellular environment (e.g., buffering extracellular ion and transmitter levels) and more specialized roles that involves processing neural activity or sensing environmental cues and communicating this information to other astrocytes and local neural networks by releasing various signaling molecules to modulate behavior. Recent work indicates astrocytes contribute to severall physiological behaviors including sleep, learning and memory, and control of breathing.

For example, perhaps the best evidence that astrocytes contribute directly to behavior is in the context of respiratory control where they appear to sense changes in CO2/H+ and O2 and release signaling molecules to modulate activity of respiratory neurons, and consequently respiratory behavior. However, molecular mechanisms that support differences in astrocyte function in respiration or other behaviors remain poorly defined. Therefore, the goal of this symposium is to bring together experts in astrocyte physiology, with a focus on defining mechanisms for how this cell type supports specialized neural circuits and ultimately behavior.

Speakers and titles:

Michelle Olsen, PhD Associate Professor Virginia Tech, School of Neuroscience

Dan Mulkey, PhD Professor University of Connecticut, Department of Physiology

Chris Dulla, PhD Associate Professor Tufts, Sackler School of Graduate Biomedical Sciences

Gregory Funk, PhD Professor University of Alberta, Department of Physiology

Min Zhou, PhD Associate Professor Ohio State University, Department of Neuroscience

Symposium #8 : WEDNESDAY 11th PM

Interdisciplinary perspectives on stress, threat and adversity 1: From experimental tools to translation

Chairs:

Sigrid Elsenbruch & Harald Engler

Summary:

Stress is a truly interdisciplinary topic that bridges across disciplines. In this symposium, we will take on a broad health neuroscience perspective, aiming to address the role of stress, threat and adversity in the context of adaptive and maladaptive behavior as it relates to health outcomes. As speakers from diverse scientific backgrounds, we will present our individual research perspectives and experimental approaches, with a unifying focus on pain and inflammatory conditions.

Speakers and titles:

Jan Pieter Konsman (CNRS UMR 5287, University of Bordeaux, France): Effects of chronic stress and antidepressant treatment on sickness behavior in a murine model of mild inflammatory bowel disease.

Harald Engler (University Hospital Essen, Germany): Anxiety and fear-related behavior in the context of inflammation: insights from translational studies.

Sigrid Elsenbruch (University Hospital Essen, Germany): Stress, threat and adversity from an experimental pain research perspective.

Eva Kosek (Karolinska Institutet, Stockholm, Sweden): Cerebral responses to pain-related threats in fibromyalgia patients indicate preferential formation of new pain associations rather than extinction of irrelevant ones.

Moa Pontén (Karolinska Institutet, Stockholm, Sweden): Naltrexone during pain conditioning - A double-blind placebo-controlled experimental trial

Symposium #9 : WEDNESDAY 11th PM Title: Status of the brain borders in CNS disorders

Chairs: Dr. Jerome Badaut and Dr. Lorenz Hirt

The blood-brain barrier (BBB) and the blood-cerebrospinal fluid barrier (BCSB) form a separation between the brain and the circulation. The BBB comprises primarily endothelial cells and the BCSB epithelial cells of the choroid plexus that limit selectively the movement of molecules, nutrients, and cells between the systemic blood and the brain. These borders are critical to maintain brain homeostasis for normal functions. In this symposium we will include also the gastro-intestinal border, which shares similarities with blood-brain interface and is known to influence the outcomes in brain disorders. We will review the recent knowledge on each of these borders in various brain disorders including stroke and traumatic brain injury. Dr Corinne Benakis (ISM, LMU, Munich, Germany) will review the interactions between brain and gut in the context of stroke. Very interestingly, the composition of the microbiota is changed after stroke with direct consequences on the outcome. This organ communication involves the immune cells, which are modified by the gut microbiota. Then, the immune cells will contribute to neuroinflammation. Intervention on the gut microbiota composition can modulate the antiinflammatory response and be neuroprotective. Dr Lorenz Hirt (UNI Lausanne, Switzerland) will review the role of caveolin proteins in the blood-brain barrier and neurovascular unit dysfunction after stroke. Some recent results suggest that this protein can be a promising therapeutic target.

Then, Dr Jean-François Ghersi-Egea (INSERM, Lyon, France) will present the importance of the choroid plexus and cerebrospinal fluid system in the control of oxidative stress and inflammation in the developing brain.

The changes at the blood-brain interface during the brain development can have longterm consequences. Dr Jerome Badaut will review the early changes in the neurovascular unit after mild traumatic injury in young animals. The early changes will be followed by longterm consequences on the brain function up to 18 months after the injury with cognitive impairments.

List of speakers:

Dr Corinne Benakis (ISM, LMU, Munich, Germany) Dr Jean-François Ghersi-Egea (CNL, INSERM, Lyon, France) Dr Lorenz Hirt (UNI Lausanne, Switzerland) Dr Jerome Badaut (INCIA, CNRS, Bordeaux, France)

Symposium #10 : THURSDAY 12th AM

Title: Epileptology: from basic science to applied bioengineering

Chairs: Olaf B. Paulson, René Pumain and Claude Wasterlain will provide introductory comments and lead the discussion of the presentations.

Summary:

This session will highlight exciting recent advances in epileptology, from basic science understanding of epileptogenesis, to automated seizure detection and characterization using wearable devices.

Christophe Bernard: Alteration of the neuronal language in experimental epilepsy We have recently shown that basic features of the neuronal language in terms of information storage and sharing can be decoded during sleep in control rats (Clawson et al., Science Adv, 2019). Although the basic structure of the language is conserved in experimental epilepsy, we find that it becomes more chaotic or random. A decrease in information processing capacity may underlie cognitive deficits associated with epilepsy.

Claude Wasterlain: Epileptogenesis: in search of the Holy Grail

Finding an antiepileptogenic treatment remains the Holy Grail of epilepsy. We will review current evidence about the basic mechanisms of epileptogenesis, the nature of the latent period and the hippocampal networks involved in animal models of acquired focal epilepsy. We will review the filter hypothesis, which postulate that hippocampal lesions compromise neural networks which prevent excessive build-up of excitation and seizures.

Olaf B Paulson: Ultra-high field MR (7 Tesla) in pre-surgical epilepsy evaluation Ultra-high field MRI investigation of patients who are candidates for epilepsy surgery has been applied for the last two years. At present 50 patients have been investigated. The resolution of morphology is superior at 7T compared to conventional MR at 3T and reveals much better resolution of the subfield in hippocampus. The 7T MR investigations are now used in the clinical evaluation and dictions regarding recommendation for surgery.

Denson G. Fujikawa: Seizures and status epilepticus

Seizures and status epilepticus with outward behavioral manifestations are easy to define. However, there are both focal and generalized seizures and status epilepticus that are subclinical with electrographic seizure discharges that are not clearly defined. We will address questions such as what is the shortest duration of electrographic discharges that constitutes a seizure and with respect to status epilepticus, what about subclinical prolonged and/or frequent generalized discharges without a change in a patient's baseline cognition? The concept of a chronic epileptic encephalopathy will also be addressed.

Speakers and titles:

Christophe Bernard, christophe.bernard@univ-amu.fr Denson G. Fujikawa, dfujikaw@g.ucla.edu Olaf B. Paulson, olaf.paulson@nru.dk René Pumain rene.pumain@inserm.fr Claude Wasterlain, wasterla@ucla.edu

<u>Symposium #11: THURSDAY 12th AM</u> _Title: Subthalamic nucleus and its unusual revealed functions

Chairs: D. Grandjean

This session will review some of unexpected functions of the subthalamic nucleus (STN). STN belongs to the basal ganglia, a group of cerebral structures that is still associated with motor functions. STN is indeed the preferred target for the treatment of Parkinson's Disease with Deep Brain Stimulation. However, even in Parkinson's Disease, the functions affected are not limited to the motor processes. We will see in this session that the functions affected by STN manipulations can be sensorial, social, emotional.

speakers:

Véronique Coizet, GIN, Grenoble, France: STN and pain Michael Pereira, EPFL, Lausanne, Switzerland; STN and sensory processes Damien Benis, Univ Geneva, Switzerland: STN activity and motivation Christelle Baunez, INT, CNRS & AMU UMR7289, Marseille, France: STN and social recognition Didier Grandjean, Univ Geneva, Switzerland: STN and emotions

Symposium #12 : THURSDAY 12th PM

Interdisciplinary perspectives on stress, threat and adversity 2: Consequences, risks and treatment

Chair:

Mats Lekander

Summary:

Even though basically adaptive, indicators of exposures to strong or prolonged stress are linked with increased risk for future ill-health. Recent large-scale epidemiological studies have increased the precision in estimating the magnitude of these risks, also in relation to populations of differential resilience. The present symposium will present research on risk estimates for groups of disorders such as cancer, autoimmune disorders, cardiovascular disease, infection and neurodegenerative disorders. The symposium will address putative mechanisms behind links between stress exposures and ill-health as well as confounders, such as reversed causality. Lastly, the symposium will address the striking lack of treatment guidelines for stress disorders by presenting recent developments in psychological treatment for patients with stress diagnoses.

Speakers and titles:

Katja Fall (Örebro University, Sweden): Stress, cancer risk and progression

Fang Fang (Karolinska Institutet, Stockholm, Sweden): Stressful life events and neurodegenerative disorders

Unnur Valdimarsdóttir (Iceland University, Iceland): Population indicators of stress and major disease development

Elin Lindsäter (Karolinska Institutet, Stockholm, Sweden): Cognitive behavioral therapy for stress-related disorders

Henrik Børsting Jacobsen (Oslo University Hospital, Norway): The role of stress in cognitive impairment in pain patients

Shireen Sindi (Karolinska Institutet, Stockholm, Sweden): Sleep and multimorbidity

Symposium #13 : FRIDAY 13th PM

Immune influences on behavior

Chair:

Anna Andreasson

Summary:

When the immune system is activated by either pathogenic or non-pathogenic danger signals, cytokines are released that signal to the brain through nervous and humoral pathways which give rise to behavioral changes aimed to facilitate recovery. These behavioral changes, collectively referred to as sickness behavior or sickness response, include fatigue, increased pain sensitivity, depressed mood, anorexia, anhedonia and malaise. In this symposia the speakers will discuss the assessment of sickness behavior and relevance of underlying immune-to-brain communication for stress and sleep, eating disorders, chronic fatigue syndrome, and pain.

Speakers and titles:

John Axelsson (Karolinska Institutet & Stockholm University, Sweden): The relationships between stress and sleep, and the puzzling involvement of the immune system

Serguei Fetissov (University of Rouen, Rouen, France): The neuroimmune model of the pathophysiology of eating disorders

Anna Andreasson (Karolinska Institutet & Stockholm University, Sweden): Development and validation of the Sickness questionnaire

Martin Jonsjö (Karolinska Institutet, Stockholm, Sweden): Sickness & behavior in chronic fatigue

Bianka Karshikoff (Karolinska Institutet, Stockholm, Sweden): Inflammation and pain

Leonie Balter (Stockholm University, Sweden): Generalization of learned behaviours – Do low-grade inflammation and age play a role?

Symposium #14 : FRIDAY 13th PM Title: Decision-making under uncertainty and judgment

Chair: C. Baunez

Patrick Pintus, economist, Greqam Aix-Marseille School of Economic, Marseille, France "Antifragility in rats: choices for extreme and rare events" Stéphane Luchini, economist,Greqam Aix-Marseille School of Economic, Marseille, France "Decision under oath in humans" Wolfram Schultz, neurobiologist, Univ Cambridge, UK "Neuroeconomic choice in non-human primates" Mael Lebreton, cognitive neuroscientist, Univ Geneva, Switzerland

"Performance under stressful conditions in humans"

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