

We are pleased to announce the 2007 EFIC Grünenthal Grant winners  
(Research grants of €20,000.00 each). The winners are:

**Thomas Graven-Nielsen, PhD, DMSc**  
(Aalborg University, Denmark)



**Referred pain related to 'Memory' in the nociceptive system**

Referred pain is a classical characteristic in musculoskeletal pain. The current understanding of referred pain mechanisms is based on facilitation of nociceptive pathways from the structure where referred pain normally is felt, a facilitation due to the musculoskeletal nociceptive input. This study will address factors potentially explaining why some subjects are predisposed to develop referred pain in contrast to others who are not.

**Valéry Legrain, PhD**  
(Université Catholique de Louvain, Brussels, Belgium)

**Behavioural and neurophysiological explorations of cognitive modulations of pain**

The aim of the project is to study the organization of the attentional processes modulating pain in the human brain, by combining behavioral (mental chronometry) and neurophysiological (laser-evoked potentials) methods. More specifically, we want to explore the ability of the brain to selectively discard attention from pain and to avoid its interference with ongoing mental activities. We will attempt to disclose the environmental and cognitive conditions (computation) and the brain mechanisms (implementation) of such selective processing of pain. The results will provide new information allowing the development and adaptation of psychotherapeutic techniques for patients to cope better with pain.



**Christian Netzer, MD**  
(University Cologne, Germany)

**Comprehensive genetic analysis of the calcitonin gene-related-peptide pathway in migraine with aura**

Migraine is considered to be a neurovascular disorder. Specific triggers promote primary brain dysfunction, and these neuronal events result in dilatation of meningeal blood vessels as well as activation of perivascular trigeminal nerves. The aim of this study is to elucidate the molecular basis of *migraine with aura* by performing a systematic genetic analysis of the *calcitonin gene-related peptide* pathway. A possible contribution of the genetic variability in this component of the trigeminovascular system to the development of migraine is an attractive new hypothesis in the field of migraine research.

**Markus Ploner, MD**  
(Technical University, Munich, Germany)



**Gamma oscillations and human pain perception**

Pain is of exceptional behavioural relevance and involuntarily demands attention. Recently, it has been shown that pain induces neuronal gamma oscillations in the human brain. Since gamma oscillations have been related to attention, we hypothesize that pain-induced gamma oscillations reflect the involuntary attentional demands of pain. The present project aims to provide direct behavioural and physiological evidence of a relationship between the attentional effects of pain and pain-induced gamma oscillations by using EEG. The study may thus elucidate a physiological correlate of the attentional demands of pain which may be involved in the pathogenesis of chronic pain syndromes.



**Dieuwke S. Veldhuijzen, PhD**  
(University Medical Center Utrecht, The Netherlands)

**Functional imaging of sympathetic arousal in fibromyalgia**

The aim of this project is to investigate autonomic nervous system dysfunction in fibromyalgia patients. Using functional MRI, the resting state of the brain will be examined with a specific emphasis on the ventral medial prefrontal cortex. Furthermore, brain activation and sympathetic responses to painful stimuli will be studied. Finally, it will be assessed whether increased interoceptive awareness is a factor underlying pain augmentation.