Here we analysed proteomic changes in the rat hippocampus after 4 hours of sleep deprivation by gentle handling. Since the hippocampus is also a target of stress hormones, we measured stress by using some of Selye's traditional indices: stomach ulceration, adrenal hypertrophy and body weight loss. We also looked at the proteomic changes in the rat adrenals after the same 4 hours of sleep deprivation since adrenals are physiologically affected by sleep deprivation. We found sleep deprived rat hippocampi express more proteins than their controls. Functions of upregulated proteins found in sleep deprived rat hippocampi are discussed here regarding their potential implication in synaptic plasticity processes.

Sleep quality perception in the chronic fatigue syndrome. Correlations with sleep efficiency, affective symptoms and intensity of fatigue

D. Neu (1, 2), O. Maireesse (1), G. Hoffmann (1), A. Dris (3), L.J. Lambrecht (4), P. Linkowski (2), P. Verbanck (1), O. Le Bon (1)
(1) University Hospital Brugmann, Sleep Laboratory, Free University of Brussels (U.L.B./V.U.B.), Belgium (2) University Hospital Erasme, Sleep Laboratory, U.L.B. Brussels, Belgium. (3) Kirchberg Hospital, Sleep Unit, Department of Oto-rhino-laryngology, Luxembourg, Grand-Duchy of Luxembourg (4) University Hospital Gent, Department of Internal Medicine, Gent, Belgium

Introduction
One of the core symptoms of the chronic fatigue syndrome (CFS) is unrefreshing sleep and a subjective sensation of poor sleep quality. Whether this perception can be expressed, in a standardized questionnaire as the Pittsburgh Sleep Quality Index (PSQI), has to our knowledge never been documented in CFS. Furthermore correlations of subjective fatigue, PSQI, affective symptoms and objective parameters as sleep efficiency are poorly described in the literature.

Methods
During a prospective protocol we studied measures like PSQI, Fatigue Severity Scale (FSS) scores and intensity of affective symptoms rated by the Hamilton Depression and Anxiety scales as well as objective sleep quality parameters measures by polysomnography of 28 “pure” (no primary sleep and no psychiatric disorders) CFS patients compared to age and gender matched healthy controls.

Conclusion
The PSQI showed significantly poorer subjective sleep quality in CFS patients than in healthy controls. In contrast, objective sleep quality parameters, like the sleep efficiency index (SEI) or the amount of Slow Wave Sleep did not differ significantly. Subjective sleep quality showed a correlation trend to severity of fatigue and was not correlated to the intensity of affective symptoms in CFS. Our findings may indicate that a sleep quality misperception exists in CFS or that potential nocturnal neurophysiological disturbances involved in the non-recovering sensation in CFS are not expressed by sleep variables as SEI or sleep stage distributions and proportions.

How significant is sleepiness in pure chronic fatigue syndrome patients?

D. Neu (1), P. Linkowski (2), G. Hoffmann (1), B. Cappeliez (1), R. Moutrier (3), P. Verbanck (1), O. Le Bon (1)
(1) University Hospital Brugmann, Sleep laboratory, U.L.B. Brussels, Belgium (2) University Hospital Erasme, Sleep laboratory, U.L.B. Brussels, Belgium (3) Kirchberg Hospital, Sleep Unit, Department of Oto-rhino-laryngology, Luxembourg, Grand-Duchy of Luxembourg

Introduction
Whether daytime sleepiness significantly exists in the chronic fatigue syndrome is presently unclear. The understanding of the underlying physiopathological mechanisms of chronic daytime fatigue like in the chronic fatigue syndrome (CFS) and excessive daytime sleepiness like in the sleep apnea-hypopnea syndrome (SAHS) are still insufficiently explored. Both daytime conditions are generally related to unrefreshing sleep and affective symptoms.

Methods
We studied subjective fatigue by the fatigue severity scale, subjective sleepiness with the Epworth sleepiness scale and objective sleepiness with multiple sleep latency tests. We compared the data of 16 pure untreated CFS without any PSD or psychiatric comorbidity (age, all females) and 13 untreated SAHS (age, all females) patients to 12 healthy controls (age, all females). Affective symptoms were measured with the Beck depression inventory and the Checklist Individual Strength (CIS-20).

Results
Mean sleep latency (MSL) was significantly shorter in SAHS patients than in CFS patients and CFS patients showed significantly shorter MSL than age and gender matched controls. Subjective sleepiness was highest in SAHS patients and subjective fatigue was highest in CFS patients.

Conclusions
Our data support the clinical distinction between fatigue and sleepiness. Nevertheless patients can combine symptoms and signs of both daytime conditions.

The influence of nocturnal road traffic noise on sleep. Day by day variability assessed by actigraphy and 7-day sleep logs: preliminary findings

S. Pirrera, E. De Valck, R. Luydts (1)
(1) Vrije Universiteit Brussel. Faculteit Psychologie. Vakgroep Cognitieve en Biologische Psychologie

Sleep disturbances are regarded as one of the most deleterious consequences of nocturnal noise exposure. Increased sleep latency and awakenings, a decrease in sleep quality and a greater sense of fatigue are only a few examples. However, the consequences not only affect the sleep period itself, but also compromise daytime functioning, causing impairments in mood, performance and general well-being.

In this field study, we assessed the objective and subjective sleep quality of people living in areas with a high density of road traffic.