panic disorder, insomnia). The treatment has consisted of cognitive-behavioral self-help programs supported by e-mail interaction. Effect sizes in these studies are equivalent to previous self-help studies on problems like panic disorder, and indicate that Internet-based treatment can serve as a cost-effective complement to psychological and psychiatric treatment. Important issues when implementing Internet-based treatment in clinical practice involve diagnoses, suitability, and compliance. Whereas self-report inventories can easily be adapted for Internet use, with similar psychometric properties as paper-and-pencil tests, it is more difficult to obtain reliable information on diagnoses. Future studies should address differences between ordinary and Internet-based treatments, and also the use of Internet-based treatment as an adjunct to pharmacological treatment.

S45.4
What can Internet add to psychiatry?

N. Lindefors*. *Department of Clinical Neuroscience, Psychiatry Section, Karolinska Institute, Stockholm, Sweden*

Computer assisted support is becoming increasingly important in clinical practice. The introduction of computerised patient records may provide a base for the development of knowledge directed psychiatry. In association with online access to data bases with diagnostic manuals and treatment programs the desk top computer may thus facilitate the development of safer medical treatments. Decision assistance during the planning of drug prescription with interaction information online may also facilitate safer treatment. Internet provide a diversified and complex avenue through the World Wide Web to acquire information on various aspects of psychiatry. For patients as well as professionals Internet Health sites with medical information have increased the awareness of alternatives for diagnosis and treatments. This is both educational and helpful but provide a challenge for the professional since it may empower some of the patients and their relatives with provocative arguments and suggestions. Internet Health sites hopefully facilitate patient self help and may be adopted for structured patient education. Clinical education and professional development through online CME with Clinical Update is widely provided but the accreditation and quality control needs to be more systematic. Examples of development of Internet applications in the near future are support systems with SMS as reminders and online booking for psychiatric consultations.

S45.5
Internet strategies for AEP

C.B. Pull*, J.M. Cloos. *Centre Hospitalier de Luxembourg, Luxembourg*

The Association of European Psychiatrists (AEP) was founded to foster communication between psychiatrists in Europe in all major fields, including in particular clinical practice, training, research and ethics. To achieve these aims, the AEP organizes European Congresses (every second year), spring and autumn symposia (in the years between Congresses), as well as a number of section symposia.

The AEP was founded before the beginning of the area of the Internet. During the first years of its existence, work in the AEP committees and sections were performed in a traditional way. This proved to be a haunting and sometimes frustrating task.

With the availability of the Internet, it has become possible to considerably develop and enhance communication between the members of the different AEP Committees, sections and other members.

The authors will describe the current version of the AEP Internet site and discuss future strategies for using the Internet to achieve the goals set up by the founders of the AEP.

S46. Data bases for psychiatric research

Chairs: H. Hall (S), C. Wahlestedt (S)

S46.1
deCODE genetics

K. Stefanson. *Iceland*

No abstract was available at the time of printing.

S46.2
Computer-based characterization of phenotypes for genetic and pharmacogenetic studies in psychiatry

H. Fangerau*, T.G. Schulze, F. Illes, S. Ohlraun, D.J. Müller, W. Maier, M. Rietschel. *University of Bonn, Department of Psychiatry, Germany*

Genetic factors play an important role in the aetiology of psychiatric disorders as well as in patient's individual response to medication.

In order to identify those genetic factors large sample sizes are required as we are not looking for major genes but for vulnerability genes with minor effects. Furthermore, even larger samples sizes are required for the obligatory replication studies.

In general those sample sizes can only be obtained by involving different clinical centres. A serious problem of multi-centre studies however is heterogeneity of phenotype characterisation, which can be deleterious for molecular genetic studies.

We developed a computer-based questionnaire to assess life-time symptomatology and to perform DSM diagnoses. The program is based on validated interviews for which translation in different languages already existed or has been made available by us.

The use of this computer-based questionnaire allows homogeneous phenotype characterisation by different study sites, easy data transfer and the possibility for psychiatrists of validating their colleagues' diagnoses even if they do not speak the same language.

This questionnaire is already successfully applied at co-operating centres in Europe, Asia and Latin-America.

S46.3
Genetic databases

C. Wahlestedt*. *Center for Genomics and Bioinformatics (CGB), Karolinska Institute, Stockholm, Sweden*

Bioinformatics (Computational Biology) has emerged as an essential discipline in the era of genome-scale biology. The advancement of high-throughput technologies for sequencing, genotyping, expression analysis and proteoniics facilitated a burst in life sciences data incomprehensible a mere 10 years ago. Despite the exciting developments in data generation, the ability to query, obtain and analyze the data remains limited to a small population of scientists bridging the gap between Information Technology and Biological Sciences. With increased emphasis on bioinformatics education as well as development of more user friendly tools and databases, the

character of this gap will undergo constant change. At our Center at the Karolinska Institutet, scientists have been instrumental in developing international databases: 1. GeneLynx (Wasserman et al.) which is a catalog of human genes with links to the internet. 2. Pfam (Sonnhammer et al.) which is a collection of protein domains. 3. UGBASE (Brookes et al.) which is a curated collection of human single nucleotide polymorphisms (SNPs). 4. RiboTag (Wahlestedt et al.) which is a growing catalog of acessible (binding) sites on RNA for functional genomics purposes.

S46.4
HUBIN – Human Brain Informatics: a database project on schizophrenia

H. Hall[1]*, T. McNeil[2], S. Arnborg[3], L. Terenius[1], G. Sedvall[1]. [1]Karolinska Institute, Stockholm; [2]Lund University; [3]Royal Institute of Technology, Sweden

To explore the etiology and pathophysiology of schizophrenia, the HUBIN project – Human Brain Informatics Center – has been established at the Karolinska Institute. This study combines molecular genetic, psychiatric, physical, brain imaging and perinatal risk data in a relational database. Major HUBIN studies are conducted on a large Swedish national sib pair material of schizophrenia and on a case-control material of patients with schizophrenia. Data on more than 2000 clinical and biological variables from more than 1000 subjects have been entered into the database. Data mining procedures are used to search for relations between variables from patients and volunteers. The data will be used to classify subgroups within the schizophrenia materials, and reveal new information regarding genetic and environmental mechanisms for the etiology and pathophysiology in the group of schizophrenia patients. The database will also be used for a detailed characterization of the variability of a large number of entities of importance for the human brain and its functions in relation to health and psychiatric disorders.

S46.5
A brain database: architectonics, receptors, functional imaging

K. Zilles[1]*, K. Amunts[1], S. Geyer[2], A. Schleicher[2], H. Mohlberg[1]. [1]University of Düsseldorf, Research Center Jülich; [2]University of Düsseldorf, Germany

The increasing number of projects on human brain databases demonstrates the growing need for such tools in neuroscience. In addition to in vivo imaging studies, post mortem data are a mandatory component of brain databases.

Nissl- or myelin-stained sections through complete human brains were analysed using a novel observer-independent technique for architectonic cortical mapping. Additionally, whole brain cryosections were processed using quantitative in vitro receptor-autoradiography. The regional and laminar distributions of 15 receptor types were quantified. An elastic multigrid deformation was used to warp individual post mortem brains, microscopically defined areas, receptor patterns, and results of structural and functional in vivo studies to a common spatial reference brain. This enabled the establishment of probabilistic distributions of cortical areas. This strategy provides new insights into the concordance or discordance micro- and macroscopic structure and function. Examples are described for the normal adult human brain and for patients with neurological and psychiatric diseases.

S47. Sleep and psychiatric disorders

Chairs: J. Hetta (S), B. Appelberg (FIN)

S47.1
Sleep physiology and behavior

T. Åkerstedt*. IPM & Karolinska Institute, Stockholm, Sweden

The polysomnographical description of sleep shows an oscillation between medium and low frequency EEG activity. Starting with the high frequency EEG of wakefulness, brain activity progressively decreases from stage 1, to stage 2 to stage 3 to stage 4 (Slow Wave Sleep), and then an abrupt change to Rapid Eye Movement Sleep (REM). This sequence is repeated 4–5 times with less SWS and more REM. The function of sleep is only partially known, but the last decade has provided new knowledge indicating major metabolic and immunological changes during sleep.

Sleep loss will essentially increase SWS, and decrease Stage 2, Stage 1, and REM sleep during recovery sleep. SWS is clearly given priority. Experimental partial sleep loss also leads to a reduced insuline response to glucose and to a reduced glucose clearance. Experimental studies sleep and memory suggest that SWS/GH (and HPA hippocampal inhibition) are involved in the formation of declarative memory, while REM/cortisol are involved in the formation of procedural memory. Furthermore, relations between the immune system and sleep are now intensively examined.

S47.2
Sleep disturbances in depression

M. Berger*. Department of Psychiatry and Psychotherapy, University Hospital of Freiburg, Germany

Polysomnographic sleep studies revealed REM-sleep abnormalities as specific for depressive disorders. This is especially true for the results of a cholinergic REM-induction-test (CRIT) with RS86. Only depressed patients show a shortening of REM-latency and an increase of REM-density. The sensitivity of these abnormalities is about 70–80%. Regarding the unspecific disturbances of sleep continuity in depression there seems to be a bidirectional relationship between insomnia and depression. That means depression is not only linked with insomnia, but chronic insomnia also increases the risk to develop a depressive disorder. Therefore adequate treatment of insomnia also seems to be relevant to prevent depression. The third part of the presentation will focus on the interesting topic, that sleep deprivation pocesses antidepressive potency and that sleep during the second half of the night exerts depressogenic properties. Own results revealed that the combination of sleep deprivation with consecutive sleep phase advance is a useful strategy to bridge the gap between the onset of an antidepressive medication and its antidepressive effect. Finally the biochemical background of sleep-wake-regulation in normals and in depressives in regard to the adenosine system will be discussed.