ELTEM_NEUREX Newsletter

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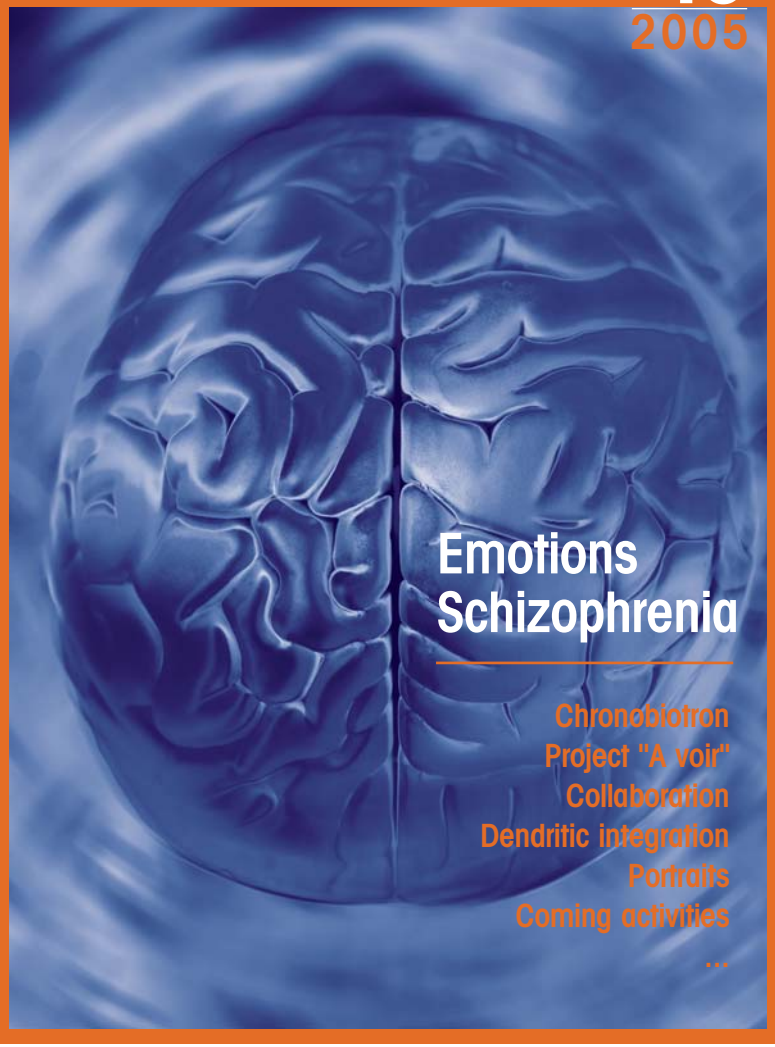
2005



Emotions
Schizophrenia

Chronobiotron
Project "A voir"
Collaboration
Dendritic integration
Portraits
Coming activities
...

ELTEM
Program in Neuroscience

neurex
neuroscience upper-rhine network

www.neurex.org

Basel
Strasbourg
Freiburg i. Br.

Contents

Trimestrial publication.

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If you wish to regularly receive it in a paper format, please send a mail to: Eltem.Neurex-Dib@unibas.ch

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Foreword

The new aspect of our Newsletter could not escape you! Only the form was modified, the substance remains unchanged. We hope that it meets your expectations and that you like its new form. Do not hesitate to share your remarks with us especially as each one does not see necessarily the same thing. Unless the following example already proves the opposite:

Acrodincg to a sduty of the uinersvity of Cmabrigde, the odrre of the ltteers in a wrod does not hvae ipmrotance, the only ipmrotnat tinhg is that the fsirt and the lsat ltteer are in the good pacle. The rset can be in a tatol dsiroder, you wlil be albe to raed it wotihut pblorem. And tihs bausece the hmuan biarn deos not raed each ltteer isleft, but the wrod lkie a wlohe.

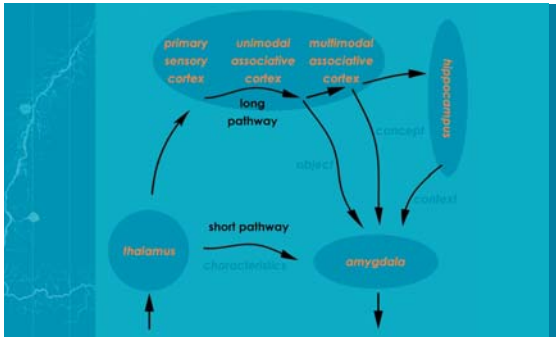
We found it interesting to communicate to the public this capacity of our brain to interpret what our eyes see and thus to make people aware of the fact that in general we think we see with our eyes, but in fact it is above all with our brain. Thus, within the frame-work of its mission of popularizing knowledge in neuroscience, Neurex/Eltem organizes with the photographer Christian Santoro an exhibition entitled "Sight - Photography" in October in Strasbourg, as well as a conference entitled: How the eyes explore the world?

The internal network's activities also continue. Indeed, 2 work-shops will be held at the end of October and at the beginning of November, respectively on "Cerebral processing of emotions" and "Schizophrenia", as well as the 2nd Trinational Neurex PhD Student Meeting which will be held mid-October near Freiburg. A multitude of other information is concentrated in this edition, which I will not indicate here, but that I leave you to discover. ■

S.K.

Cerebral processing of emotions

Is the fear of the bear making a person taking to flight or is the flight making a person afraid? By asking this question in 1884, William James started the debate of the generation of emotions. His point of view was that physiological reactions preparing the flight (heart beat acceleration, clammy hands…) appears first and that their cerebral interpretation leads to emotion in a second time. From the year 1920, Walter Cannon progressively supported the major role of the autonomous nervous system in the appearance of those physiological reactions. To his mind, the hypothalamus, involved in the autonomous nervous system and localised between the cortex and sub cortical primitive regions was critical for emotions.



Legend:

Basic representation of the connections between cerebral structures involved in the processing of emotion. More detailed aspects will be discussed during the workshop.

Basel
October
26th
2005

This workshop will take place in room 104 Biozentrum, Basel

Detailed program is available on www.neurex.org and on page 39.

In the 60's, Schachter and Singer were considering that the context in which a situation occurs is used to attribute a label of fear, joy, love… to the physiological modified state of the body. In other words, emotion is generated when we cognitively explain some ambiguous body signals. Even if this interpretation is questioned, the distinction, and the relationship between cognition and emotion has been useful. Many studies have tried to find out the cerebral bases of emotion; MacLean proposed, in 1950, that some primitive parts of the brain, contained in the limbic system, are the cerebral basis of emotions. The implication of some limbic structures, specially the amygdala, in the processing of emotions has been demonstrated many times, nevertheless, the concept of a unique emotional brain has been revised.

During the workshop proposed by Neurex/EItem and organised by Dr Pascale Piguet, the cerebral basis of emotions and the relationship between emotion and cognition will be discussed. Indeed, cerebral imagery techniques in human and electrophysiological measurements in animals have been used to demonstrate the role of the amygdala and its relationship with the prefrontal cortex in emotions. The study of certain pathologies also leads to important results. Schizophrenia is, for instance, considered as a pathology of context treatment and is, therefore, a useful model for the study of emotions. Find the program of this workshop enclosed to the current Newsletter. ■ F.B.

Dr Pierre Veinante

Focus on the amygdala by Pierre Veinante, one of the talkers of this workshop.

The amygdala is deeply involved in several aspects of emotion processing, such as the determination of the emotional significance of sensory signals, the generation and regulation of emotional responses and the modulation of the memory of emotionally arousing events. From an anatomical perspective, the amygdala has been a challenge to neuroanatomist, due to the heterogeneity of its component nuclei and the complexity of its connections. Modern neuranatomical tools lead to separate two distinct entities. The corticobasal amygdala and the centromedial amygdala.

A wide array of projections influences endocrine, somatomotor and visceral centres in the hypothalamus and the brainstem to initiate and regulate different emotional responses. Analysis of axonal branching patterns (anatomical addressing) and neuropeptides expression (neurochemical addressing) along these pathways allows understanding the anatomical substrate underlying the control of autonomic component of emotional responses. ■ P.V.

Symposium

Schizophrenia

Ottrott
November
3rd - 5th
2005

This workshop will take place in the Hotel Hostellerie des Châteaux in Ottrott (http://www.hostellerie-chateaux.fr/anglais.html)

Detailed program is available on page 40_42 and on www.neurex.org as well as the major articles from the speakers.

Schizophrenia is one of the most severe mental illnesses

Approximately 1 percent of the population is said to develop schizophrenia during lifetime. People with schizophrenia often suffer strange symptoms such as hearing internal voices, or undergoing false belief such that other people are reading their minds, controlling their thoughts, or plotting to harm them. These symptoms may leave them fearful and withdrawn. Their speech and behaviour can be so disorganized that they may be incomprehensible or frightening to others. Available treatments help in controlling most positive symptoms that are absent in non-psychotic people. But they do only little for the negative symptoms that are abilities or functions that non-schizophrenic people do have. Absent will and flattened affects are such symptoms that, although more discrete, leave patients in emptiness. This dark side of the disorder, more obvious between the psychotic episodes, is most disabling.

Furthermore, because schizophrenia begins usually in the late teens or twenties and never ends thereafter, it ruins the life of patients from their early age, stopping them in the construction of their personality and social achievement.

Schizophrenia is a challenge

Schizophrenia is an amazing challenge for physicians and scientists. Whereas many other pathologies have moved from mere description of syndromes to diseases with known physio-pathology and sometime known aetiologies, schizophrenia still remains a mere symptomatic description. We still are not sure how and why the symptoms emerge. It constitutes the main hindrance for designing new therapeutic interventions.

But more and more is known about the disorder

Taking advantage to the fact that many teams in the Neurex have significantly contributed to the understanding of schizophrenia, advances in the knowledge of the disorder will be exposed and discussed in a Workshop organized on Nov. 3rd, 4th and 5th, 2005 (Ottrott - F) by Dr. J. Foucher (see portrait next page).

Many aspects will be debated:

Pr. Anita Riecher-Rössler from Basel will chair the first session on psycho-pathology. Are there symptoms beyond the classical ones that should be better regarded to anticipate the occurrence of the disorder or to generate new hypothesis? What are the boundaries of the pathology and its relation with normal but unusual experiences or disorders such as borderline personalities?

It is now generally accepted that schizophrenia is related to an information processing disorder. The second session chaired by **Pr. Jean-Marie Danion** from Strasbourg, will focus on the characterization of abnormalities in information processing using cognitive neuro-psychology. Speakers will show how high-level cognition such as episodic memory, or executive functions are dysfunctional. They will also demonstrate that more basic processes such as simultaneity perception can be abnormal.

Many tools have been developed to study brain function and their application to schizophrenia has provided new insight into the disease. The third session, chaired by **Dr. Peter Boeijinga** from Rouffach, will look at the disturbance of brain electric activity in schizophrenia, as captured by EEG or MEG. Lecturers will show that abnormal patterns can be seen even at the early beginning of schizophrenia, and that electric activity is more noisy. Besides they will demonstrate how the organisation of brain activity during the circadian cycles is disturbed.

Dr. Tebartz van Elst from Freiburg will chair the anatomical and functional imaging session. Speakers will present results concerning brain anatomy in the prodromal stage of the disorder and explain the differences with psychosis of epilepsy. Then it will bring in how magnetic resonance spectroscopy provides evidence of unexpected increase of glutamate in the brain of patients.

Dr. Jack Foucher from Strasbourg will chair the fifth session on the disconnectivity hypothesis. It is proposed that schizophrenia results from poor or miswired anatomical connections. What are the functional counter parts of disconnectivity? Studies about brain integration in schizophrenia will be presented. Then **Pr. Ad Aertsen** from Freiburg will bring forward the most advance scientific knowledge concerning brain integrative function.

Dr. Roland Vauth from Basel will chair the emerging therapy session. The place of oestrogen replacement therapy, cognitive and behavioural therapy as well as remediation strategies and rTMS will be discussed.

Dr. Yann Hodé from Rouffach will chair the session about genetic and schizophrenia. **Pr. Michael O'Donovan** from Cardiff University will offer a review of the literature. Other detailed presentations will focus on the genetic of D2 receptors and the 22q11 syndrome.

Last but not least **Pr. Joram Feldon** from Zurich will chair the animal model session. Imaging studies in animals as well as new genetic models will be presented. Other studies will focus on more specific part of the disease such as delusion and latent inhibition.

There should be plenty of time for queries and brainstorming sessions are planed during the workshop. Participants will be particularly encouraged to exchange new ideas about the disorder and plan future collaboration to test them. ■ J.F.

Legend:

The INSERM unit
on the physiopathology
of schizophrenia
(U666 - Strasbourg).

From left to right
Highest row:
Jean-Marie Danion, Guy Sandner, Christiane Schaeffer, Patrick Greis, Pierre Vidailhet, Anne Giersch, Alain Louilot, Isabelle Offerlin-Meyer
One raw under:
Didier Pinault, Anne Picard, Elodie Pernot-Marino, Pierre Salamé, Alexandre Baratta, Christine Ramana-Keller, Nelly Boehm
One raw under:
Jack Foucher, Caroline Schuster, Elisabeth Bacon, Francisca Meyer
Lowest raw:
Yvan Peterschmidt, David Luck, Bich-Thuy Pham, Yannick Schmidt

Research Unit 666

A research unit: Clinical and experimental physiopathology of schizophrenia

This research unit has been recently created (one year ago) merging the former INSERM unit U405 ("Psychopathology and pharmacology of cognition") and researchers from the former U398 ("Neurobiology and neuropharmacology of generalized epilepsy") together with new adjunction from histology academic research. Pr. Jean-Marie Danion heads the unit settled in Strasbourg and has been called U666. The research project aims at better understanding the physiopathology of schizophrenia. It is relevant to focus on the physiological aspect, as it may be close to the clinical expression of the disorder that is roughly common to patients. This approach avoids to rely on the assumption of a common aetiology, which is most probably multiple and multifactorial.

The U666 is comprised of 3 teams:

Dr. Anne Giersch heads the clinical team. Its research use the instruments of cognitive neuro-psychology to better understand the information processing that is impaired in schizophrenia. More recently physiological research has been performed using multiple non-invasive methods in collaboration with another research group in Strasbourg (CNRS UMR 7004) but also with Rouffach, Freiburg and Paris. MRI, fMRI, SPECT, EEG, MEG and rTMS are the main modalities that are used. One of the main theme of research focus on the demonstration of abnormal integration in schizophrenia.

Pr. Guy Sandner heads the team on behavioural and physiological characterization of animal models. Using well-known paradigm such as latent inhibition the purpose is to understand the role of dopamine and its modulation by other regions. But the team also try to develop new models especially for the negative symptoms of schizophrenia, which are at the heart of impairment in the disorder. A second topic of research is to clarify the part plaid by the thalamus in cortical integration and put the results in perspective with the findings of the clinical team.

Dr. Astrid Nehlig heads the team on functional and anatomical imaging of animal models. Auto-radiography, and detailed histology with several staining methods are used to better understand how early brain insult have a delayed clinical expression. This latent period is supposed by the so-called neurodevelopmental hypothesis of schizophrenia. The team is also on the way to develop in vivo imaging techniques in order to prospectively follow the effect of an early insult in the same animals and correlate early physiological modifications with later behavioural expression.

Dr Jack Foucher belongs to the clinical team of the INSERM U666 headed by Pr. Jean-Marie Danion in Strasbourg. He is a neurologist also trained in psychiatry, with special interest in the field of psychosis. He has been recently promoted as assistant professor and clinical practitioner.

Beside his clinical and teaching responsibility, he was in charge of developing functional imaging and neuro-physiology in the clinical team. He also collaborates with other teams to use the methods implemented for schizophrenia in other fields like epilepsy and Alzheimer disease when advisable.

His main scientific purpose is to refine the dysfunction of the brain in schizophrenia at a global integration level. He recently demonstrated in fMRI and MEG studies that integration cannot be merely understand as deficient in schizophrenia but that the picture is somewhat more complex. This has also a behavioural counterpart as he establishes in a recent study that temporal integration is prolonged in schizophrenia. ■ J.F.

Chronobiotron
The new time masters

The Chronobiotron is working; let's discover its secrets with Paul Pévet, head of the Neuroscience Federative Institute in Strasbourg

FB: What is the Chronobiotrion?

PP: *The Chronobiotron is an experimental unit of the CNRS which allows the manipulation of physical parameters of the environment such as light and darkness, temperature, dampness … By manipulating this parameters, we are able to mimic the daily, seasonal and climatic changes which living bodies have to deal with.*

FB: In order to learn how they react to those changes?

PP: *Exactly. Human person in particular are exposed to many changes. Natural variations but also artificial ones in relation with our modern way of living; night-time and shift jobs, jet-lags are some examples. Nobody knows today what the potential effects of this gigantic human experiment are.*

FB: Can the artificial variations be imitated in the Chronobiotron?

PP: *Yes, night-time jobs are modelised by feeding animals at regular time, as they are expected to sleep whereas models for shift jobs consist in reversing the night/day cycle each 3 days. Twenty percent of the worldwide active people is concerned with night-time or shift works and we now have some arguments to think that this working conditions could be involved in the development of troubles such as ulcer, obesity, cardiovascular affections, sleep and awareness perturbations …For this reasons, the Chronobiotron is a major tool for clinical neuroscience and for the continuity between fundamental research and clinical research.*

FB: You are talking about troubles in human beings; are you going to experiment humans?

PP: *We are of course using animal models: rats, mice and hamsters, principally nocturnal animals but also arvicanthis who are diurnal. All this animals are placed in photoperiodic rooms and are monitored by a telemetric system while been free to move.*

FB: Did it take you a long time to realise this project?

PP: *Our first project is now 20 years old! This time, we were planning to build an facility dedicated to biological rhythms. The creation of the Neuroscience Federative Institute in Strasbourg in 1996 has been particularly significant. Finally, the CNRS, in association with national and local authorities decided the construction of the Chronobiotron we have inaugurate in June.*

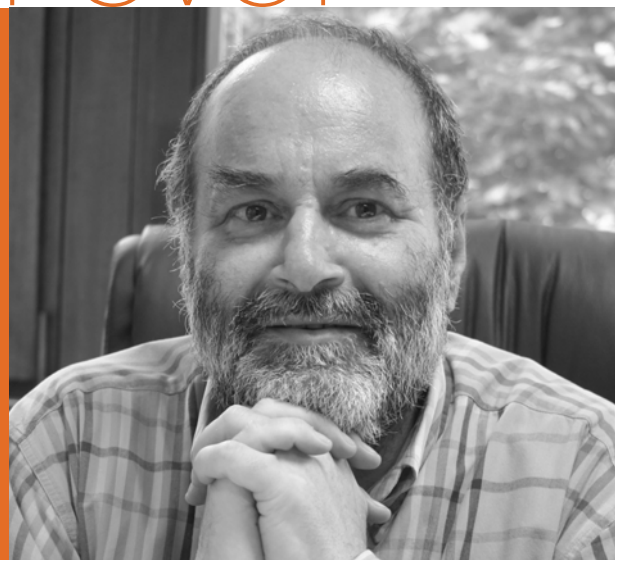
FB: Why has the Neuroscience Federative Institute been so important?

PP: *Initially, the Neuroscience Federative Institute was expected to favour the creation of very important, but also expensive, equipments. One way to create those tools was to share financial resources of different labs involved in the same research thematic. Thanks to the Neuroscience Federative Institute, cerebral imagery systems, electronic and confocal microscopy and imagery analyse systems are available to neuroscience teams in Strasbourg and in the Neurex network. Now a day, the role of the Neuroscience Federative Institute is expending. He's expected to coordinate a pole of formation in neuroscience and be attractive for new teams, in relation with ELTEM in Basel and NEURAG in Fribourg. In this collaboration context, a Joint Master in Neuroscience will be operational in 2006. We expect a lot from this Joint Master.*

FB: The Chronobiotron seems to be only one part of a larger re-organisation of neuroscience labs in Strasbourg.

PP: *You are right. The Chronobiotron project is link to the Biological Rhythms Laboratory who will join 2 other labs ("Nociception and pain" and "Neurotransmission and neuroendocrine secretion") in order to create the Institute of Cellular and Integrative Neuroscience (INCI). This institute will concentrate on fundamental and biomedical neuroscience in Strasbourg whereas the Institute for Biomedical Research in Strasbourg (IRBS) soon to be formed will -based on strong fundamental approaches- concentrate more on biomedical and clinical neuroscience. Both structures should be an advantage for the Neuroscience Federative Institute (which include 3 other labs) and the Neurex Network in their plan to become a world-wide known Brain Valley.* ■ F.B.

Dr Paul Pévet



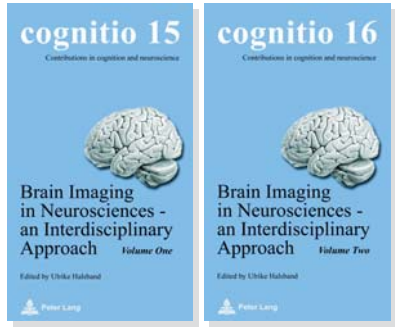
Chronobiotron Follow the guide

Visiting the Chronobiotron the transgenic and the high security facilities with Dominique Ciocca, scientific head of this new structure.

The Chronobiotron, in white on the map, is made of 16 photoperiodic rooms, 5 rooms dedicated to activity telemetric-studies 2 climatic rooms and 1 operation place.

The high security facility, in light-blue, consist in 2 rooms and experimental laboratories whereas the transgenic animal facility, in dark-blue, is made of 6 photoperiodic rooms, 1 experimental laboratory for transgenic manipulations, 2 rooms dedicated to feeble animals and another one to awakening. Each photoperiodic room is about 12 m^2 and can shelter 1000 mice. ■ F.B.

Brain Imaging in Neurosciences – an Interdisciplinary Approach Vol. 1 & Vol. 2



Are soon available

The human brain is composed of complex functional networks, which adapt to changes in the environment. Cerebral plasticity occurs in normal brain development, in reaction to a cerebral lesion or as the result of a training effect. Brain imaging of learning-related and developmental plasticity provides us with insights into the identification and characterization of the underlying neural basis of cognitive and motor functioning in the normal brain. In addition, plasticity in the central nervous system is an intrinsic feature in the reorganization of function after brain damage - a better understanding of the neural mechanisms has major clinical implications for the treatment of patients with brain damage and disease. The focus of the present two volumes is on new developments and up-to-date key findings in neuroimaging and neurosciences in the healthy and in the lesioned human brain. Although continuity between the two volumes exists, the first volume is devoted to modern brain imaging techniques and plasticity of higher cognitive functions whereas the second volume presents an overview on plasticity of motor imagery and motor execution as well as on the functional reorganization of the brain. Overall, the two volumes provide an interesting insight into the mechanisms open to the developing and mature brain to repair and reorganize itself.

The first two chapters (volume one) include a thought-provoking overview on fundamental issues of different brain tools used in neurosciences, co-registration methods, a critical discussion on their advantages and disadvantages and on conceptual and methodological issues of imaging emotional brain functions.

Part two covers newest findings on the neural mechanisms of human planning, problem solving, learning and memory. Part three leads the reader through the exciting field of language processing in the healthy and lesioned brain.
The opening of the second volume (part four) covers four papers on the neural mechanisms of motor imagery, motor execution and action understanding. Part five is devoted to the most challenging topic of the neural mechanisms involved in functional recovery and cerebral reorganisation after focal brain damage.

The discussion of the current knowledge regarding the neural mechanisms involved in altered states of consciousness presented in part six provides an exciting conclusion to the volume. From a neurobiological point of view hypnotic trance induction can be interpreted as a modified state of consciousness which is reflected by a dynamic change of brain activity.

Taken together, the edition leads the reader through the exciting field of human brain plasticity, and presents insights into current and future research activitsies. ■ U.H.

Both volumes are edited by Prof. Dr. Ulrike Halsband (University of Freiburg), published by Peter Lang (Frankfurt), and will appear simultaneously within the next weeks. They will be available in specialized bookstores or via www.neurolabor.de

Bioscope and Neurex, an opportunity for a partnership

Bioscope is the park dedicated to exploring life. With a unique, surprising, and amusing itinerary packed with encounters and unexpected discoveries as well as shows, visitors take a look at every aspect of life on earth. Bioscope is an 25 ha open-air park located on the Alsatian plain, between Colmar and Mulhouse (Ungersheim district). The park is currently under construction and the first phase is scheduled to open in June 2006. It is a project of the Alsace Région and the Haut-Rhin Département, in partnership with Grévin & Cie.

In order to discover Bioscope, each visitor chooses an itinerary from the nine theme areas that stage the elements that make up existence on our planet. For each theme that is covered, the visitor shares this special experience with a Special Witness, a person with a specific knowledge about the subject.

For example, visitors will have the opportunity to choose and experience an awakened dream by looking films in small capsule. To gain further insight into Sleep and Dreams, Catherine Vidal (Neurobiologist from the Institut Pasteur - Paris) and Roland Jourdain (French Skipper) will provide information about their own experience and knowledge in this field. Such a theme could give the possibility of a collaboration between Neurex and the Bioscope, the first contacts between our two structures were made. To be continued ... ■ A.A.

Winter School of Neurogenomics 2005

As every year, a winter school of Neurogenomics will be held in Basel. Co-organized by M. Primig, L. Hermida and B. Hartmann, it will take place at the Pharmazentrum, from the 12th to 16th of December. This course introduces life scientists to the high density oligonucleotide microarray technology and its applications in the field of neurobiology.

Since this workshop includes a practical part, access will be limited to a number of selected participants. The program and the application form will be soon available on www.neurex.org in the section "Workshops and Meetings". ■ S.K.

Neurex fellowships 2005

This year two fellowships were allocated thanks to contributing funds from the Department of the Bas-Rhin and the Urban Community of Strasbourg. We take this opportunity to thank them for their support. ■ S.K.

Coming Workshop

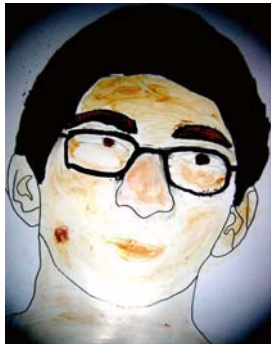
on "Electrophysiological and neuroimaging approaches of neurocognitive processes", January 2005.

A new president for Alsace BioValley

Mr. Gérard Christmann,
director of Lilly's production site at Fegersheim was elected President of Alsace BioValley on September 1st.

He succeeds Prof. Philippe Poindron who had decided to stop his activities within of Alsace BioValley after four mandates of two years each. The new Board of Directors intends to give a more industrial emphasis to actions undertaken by Alsace BioValley, reinforcing collaborative activities between all players involved in Life Sciences. This will be achieved in synergy with the "Competitivity Centre for Therapeutic Innovations" with which BioValley has already entered commitments and will be involved much more in the future.
More on page 19.

Project "A VOIR"



More details on
www.a-voir.org

"A VOIR" is a research project on the art and science of the brain, combining photography with the understanding of sight. The meeting between art and neurosciences is aimed at making people aware, exciting their interest, helping them discover things, surprising them and enabling them to learn and understand. It is designed for all types of people (researchers, artists, knowledgeable members of the public, pupils, general public etc.). It will be exhibited in a variety of venues and will take on different art forms to allow the use of a diversity of approaches.

Nothing is as natural as combining eyesight and photography within a project. The eye can indeed be compared - from the functional standpoint - to a camera, the retina being equivalent to photographic film.

When a photograph shows the reality of the image seen through the viewfinder, it fulfils its most common function, that of memorising and recording appearances, and reproduces what the eye can see. But the result can be quite different. When photographers go beyond that, exceeding the common conception of photography as a record of what has been seen by taking pictures of subjects with no actual existence, or when they give the photograph - which is an intangible image that is ordinarily deposited on a flat surface - a three-dimensional aspect or amplify the angle of the shot so that it exceeds our field of vision, the resulting work is paradoxical in nature, because it goes against one of the common characteristics of photographic images.

To create such illusory or material types of objects, the photographer has to use trickery or operate a selection in the process of establishment of the photographic image, by acting upon what can be photographed, the photograph itself, the materiality of its medium or the photographed subject.

The project presents works conceived according to these processes, and raises questions about eyesight and our perception of things.

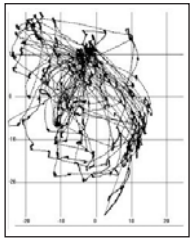
As stated earlier, the project is intended for a variety of audiences - selected public like those involved in the first aspect, which was designed for school pupils (see opposite a selection of photographs by children from a school in Barr, France) - or very wide public like this current part of the project, which includes a general lecture on the subject of "How our eyes see the world" by Zoï Kapoula and an exhibition of photographs and installations by Christian Santoro titled "Sight and Photography" (see opposite).

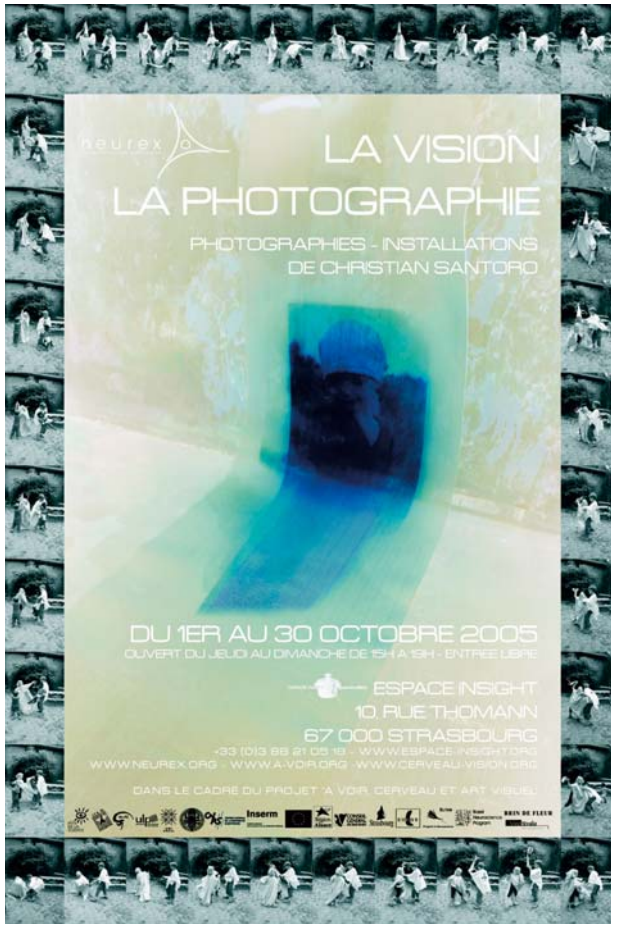
The year 2006 will also be marked by the development of further parts of the project, of which you will be kept informed in our future issues. ■ S.K.

Public Conference "How our eyes explore the word"

October 3rd, 2005
7.00 pm
Strasbourg

Dr. Zoï KAPOULA, Director of research - CNRS, Laboratory of physiology of perception and action - Collège de France - will present the strategies of the ocular movements used for visual exploration and the manners to measure them. In particular, it will be emphasize the way our eyes explore a work of art. Dr. Zoï KAPOULA will base her explanations on the works of Françis Bacon, Fernand Léger, Michel Paysant and Christian Santoro. ■ S.K.





Photography exhibition "Sight and Photography" by Christian Santoro

It is tempting to think that a photograph is the reproduction of what the eyes can see, but that is not always so. The result can be quite different in actual fact! That is what Neurex and the Insight group would like you to come and see. The work of Christian Santoro provides information about our visual system and its working. We would like to thank Dr. David Hicks, CNRS - Neurobiology of rhythms and seasonal functions, for his valuable scientific contribution. ■ S.K.

Blinking: or being unconsciously blind

Among the questions you are probably not thinking about each morning while opening your eyes, and even not each evening while closing them, there is the question "what do we see during an eye blink?" Although we blink every 4 to 6 seconds, we notice neither the act of blinking nor the mini-blackouts they cause. What is going on, in the human brain, during blinking?

This issue has been addressed in a paper by Bristow et al. published in July in Current Biology. However the concept of blink suppression, a visual-sensitivity loss that begins immediately prior to blink onset is studied since more than 25 years, its neural basis remain unclear. One important constraint in its study is that two simultaneous phenomenon have to be experimentally separated: brain-activity resulting from an extra-retinal signal associated with the blink motor command on the one hand, and neural-activity changes caused by the retinal-illumination reduction that results from occlusion of the pupil by the eyelid on the other hand. To tackle his constraint, Bristow et al. employed a specially designed apparatus to stimulate the retina without light traversing the pupil!

Bristow, D., Haynes, J.D., Sylvester, R., Frith, C.D., Rees, G. (2005).
Blinking suppresses the neural response to unchanging retinal stimulation.
Current Biology, July Vol. 15, 1296-3000.

A fiber-optic light source was placed in the mouth and was used to trans-illuminate, through the palatine bone, both retinas with a flickering light source. As subjects additionally wore opaque light-proof goggles, retinal stimulation was produced by trans-cranial illumination that was completely unaffected by eyelid closure during blinks.

An fMRI block design was carried out and two factors were manipulated: the presence (or absence) of retinal illumination via the mouth and the presence (or absence) of voluntary blinking. The authors demonstrated that blinking strongly suppressed the response to retinal stimulation in retinotopic area V3 but enhanced signal in early cortical areas and in the lateral geniculate nucleus (LGN) in the absence of any retinal stimulation. This significant V3-activity reduction associated with blinking represents a reduction in sensitivity to visual stimulation and could represent a neural mechanism underlying the blink suppression. Considering the whole brain, the authors demonstrated that nonoculomotor regions of parietal and prefrontal cortices showed a reduction in activity during blinking in the presence of retinal stimulation. This reduction in activity is likely to be related to an extra-retinal neural signal associated with the blink motor command from the non-overlapping occulomotor regions. The authors suggest that this activity-reduction in the parietal and prefrontal cortices represents a neural mechanism underlying the lake of awareness of the percept of the eyelid descending across the pupil and the resulting reduction in retinal illumination. The authors also suggest the positive signal associated with blinking in the absence of retinal stimulation observed in the LGN and in early visual areas V1-V3 could represent a motor signal associated with blinking in visual cortex.

To the authors mind, this positive blink-related signal in early visual areas LGN-V3 represents a neural signature of blinking associated with the blink motor command. Bristow et al. also suggest that blink suppression and saccadic suppression may share common neural mechanisms. ■ F.B.

Competitivity centre

« Therapeutic innovations »

The competitivity centres is an initiative launched by the French government in response to the challenges of international economic changes. A competitivity centre may be defined as the combination, on a given geographical area, of businesses, training centres and research units involved in partnerships aiming at promoting synergies around joined projects of an innovating nature and availing of the critical mass necessary to have an international profile. This call for project led to retain 67 candidacies of 105; the Alsatian Centre was ranked in the fifteen first one.

BIOVALLEY
The Life Sciences Network

More information about the evolution of this competitivity centre for « Therapeutic innovations » is available on http://www.biovalley.com/

Strong in its recognition as a competitivity centre with a worldwide purpose, the competitivity centre for "Therapeutic Innovations" now has to implement its actions according to three objectives:

- To give a concrete expression to identified projects
- To encourage collectively new collaborative projects
- To foster an environment favourable to projects implementation and to their anchoring into the Alsatian economic fabric.

A governance council will drive this centre - an association named AGIT has been created for this cause. This independent structure will be made up of representatives from the centre's various components (companies, public and private research centres, public and private training organisations) whilst also including representatives of existing structures involved in the centre's activities or ad hoc committees.

In this framework, Alsace BioValley will undertake operation and coordination activities and promotion actions in close collaboration with other regional structures having a close links with the centre's themes, namely Iconoval, Rhenaphotonics and Neurex.

The main missions undertaken by the governance council will be:

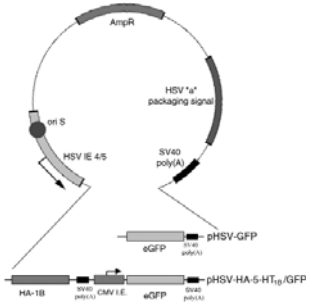
- Definition of the centre's strategic operations,
- Granting a label to cooperation projects and technical platforms,
- Recommending labelled projects to the centre's funding committee,
- Ensuring follow up and implementation of cooperation projects and technological platforms.

The area covered by the centre is defined by the administrative limits of the Alsace region but the centre will collaborate with the Swiss and the German partners of BioValley. ■ S.K.

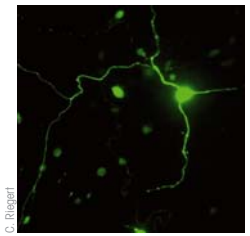
Collaboration

Collaborations are being encouraged within our network by supporting exchanges of graduate students working on a common project. Through out this article you will discover the research thesis of Céline Riegert who performs it in co-tutelle in the teams of Prof. Jackish (Freiburg) and Dr. Cassel (Strasbourg). Insight into this collaborative research project:

…Understanding the role of the serotonergic 1B receptor in the presynaptic modulation of neurotransmitter release…



Amplicon maps used for 5-HT1B and GFP expression. Michael S. Clark and al. The Journal of Neuroscience, June 1, 2002, 22(11):4550-4562



C. Riegert

Neurons in culture transfected with HSV1

Over the last years, the group of Prof. R. Jackisch in Freiburg (Neuropharmacology, Freiburg, Chair of phamacology Prof. Dr. L. Hein) and the group of Dr. J-C. Cassel in Strasbourg (Behavioral and Cognitive Neuroscience, Strasbourg, Head of Lab. Dr. C. Kelche) have worked in close co-operation to progress toward a better understanding of the neuropharmacological substrates and the cognitive (mainly memory) implications of interactions between cholinergic and serotonergic systems in the rat brain. In that concern, presynaptic modulatory mechanisms of neurotransmitter (particularly serotonin) release has received particular attention.

Both groups are especially interested in the role of the presynaptic serotonergic 5-HT_{1B} receptor in the rat nervous system. 5-HT_{1B} receptors are coupled to Gi-type G proteins and inhibit adenylate cyclase. They are either autoreceptors (localized on serotonergic axon terminals) or heteroreceptors (localized on non-serotonergic terminals). When activated by serotonin, they inhibit the release of 5-HT (autoreceptor function) or of other neurotransmitters such as, for instance, acetylcholine (heteroreceptor function). At the start of this collaboration, models in which these functions were investigated included classical lesions depriving the hippocampus of its cholinergic and serotonergic (and other types of) innervations, highly selective cholinergic or serotonergic denervations of this structure, as well as intrahippocampal grafts of fetal neural cell preparations rich in cholinergic and/or serotonergic neurons. These studies, which were conducted on the basis of classical pharmacology and psychopharmacology approaches, have recently included 5-HT_{1B} receptor KO mice. All these approaches, however, did not allow fine tuning in the study of specific cellular mechanisms by which a receptor contributes to a particular brain function.

Part of the thesis research project of Céline Riegert aims at investigating changes in the presynaptic modulation of neurotransmitters release following targeted and neuron-specific overexpression of the 5-HT_{1B} receptor by gene transfer using replication-deficient herpes simplex virus type 1 (HSV1). This manipulation is possible on the basis of a collaboration with the group of Dr. J. Neumaier (Harborview Medical Center, Psychiatry, Seattle, USA), who developed a viral-mediated gene transfer strategy to express this receptor together with the GFP (Green Fluorescent Protein) in neurons following an amplicon insertion into the virus.

Céline Riegert

PhD student, is involved in the collaboration between the teams of Dr. Cassel (Strasbourg) and Prof. Jackisch (Freiburg).

The first step of the thesis project consisted in the induction of an overexpression of this receptor in neurons of embryonic raphé or septal cell cultures, and to characterize the consequences of this overexpression on the release of serotonin or acetylcholine and on the modulation of this release by 5-HT_{1B} agonists or antagonists. The electrically-evoked release of [^{3}H]-serotonin or [^{3}H]-acetylcholine is measured after incubation of the cultures with [^{3}H]-5-HT or [^{3}H]-choline, respectively.

To further the understanding of the 5-HT_{1B} receptor-functions, the next step of the work consisted in overexpressing this receptor in vivo, either in the raphé nucleus or in the septum / diagonal band of Broca regions of the rat brain. After transfection, while overexpression is occurring, the release of both neurotransmitters is studied in the target structures of both nuclei (cortex, striatum and hippocampus after raphé transfection, hippocampus after septum transfection).

The 5-HT_{1B} receptor has also been implicated in cognitive processes (such as learning and memory), in part because interactions between serotonergic and cholinergic systems might rely on the presynaptic inhibition of acetylcholine release by activation of 5-HT_{1B} heteroreceptors located on cholinergic axon terminals, at least in the hippocampus. The aforementioned virus may enable the induction of selective overexpression of 5-HT_{1B} receptors on nerve endings of the septo-hippocampal neurons. It is planned that the effects of this in vivo receptor-overexpression will be assessed using a spatial memory task in the Morris Water maze.

Setting up such a topic wouldn't have been possible without the strong co-operation between the labs named above. ■ C.R.

2nd Trinational Neurex PhD Student Meeting

As all good habits should be kept, we are glad to announce the 2nd Neurex PhD Student Meeting. Again, this meeting will be organized for students by students. It will take place on October 14-16th 2005 in Schloss Reinach (www.schlossreinach.de) in Munzingen (near Freiburg).

This meeting will give you the opportunity to get to know people from the different fields of neuroscience, to discuss scientific experiences and to have fun. The time schedule will involve a scientific program with social activities in a nice atmosphere. We can learn e.g. more about different research techniques, debate about future opportunities in neuroscience and experience nice moments together with PhD students from the three Neurex joined Universities Strasburg, Basel and Freiburg.

If you are interested, send an email to Neurexwe@nz.ukl.uni-freiburg.de.

Munzingen, D
October
14th-16th
2005
in Schloss Reinach
www.schlossreinach.de
in Munzingen
(near Freiburg)

Full program and further information available on the Neurex website: www.neurex.org (rubric workshops/ meetings).

Program overview:

Friday 14th October:
6.00-6.30 pm: Arrival
7.00 pm: Welcome dinner, followed by 'getting to know you' evening

Saturday 15th October:
Scientific visit in the morning, afternoon boat tour and walk at Taubergiessen (spare time programme)/rain alternative,
7.00 pm: dinner
8.00 pm: scientific session

Sunday 16th October:
talks in the morning,
1.00 pm: lunch, end of the weekend.

We are looking forward to seeing you in October!
The organisation team

Reliability of dendritic integration in neocortical neurons

Studying the dynamics of neuronal networks is essential for the understanding of the working principles of the brain. A promising route towards an increasingly realistic picture of the neocortex is the interplay of experimental and theoretical investigation of neural computation at the level of individual cells as well as on the level of groups of cells embedded in an active neocortical network. In the recently founded Bernstein Center for Computational Neuroscience (BCCN) at the University of Freiburg, the group of Dr. Clemens Boucsein studies signal propagation in the neocortex and the influence of network activity on neuronal physiology, combining in vivo-recordings of intra- and extracellular signals with new, innovative experimental in vitro-designs.

Recent advances in the characterization of neuronal physiology, especially of pyramidal cells, have revealed a wealth of mechanisms which can turn a single cell into a highly complicated and non-linear signal integrator. Prominent examples are dendritic Calcium- or NMDA spikes and back-propagating action potentials, but also plasticity phenomena. Most of these mechanisms depend strongly on the membrane potential and on the history of synaptic activity in the different dendritic branches of the cell. In principle, they can lead to a highly variable spike output pattern as a reaction to the same or similar synaptic input patterns, depending on the actual activity state of the surrounding cortical network, as well as the activity history of the individual neuron. In an active network, which provides single cells with vivid synaptic input, these mechanisms could lead to a profound influence on the dynamics of signal propagation and information processing. It is, thus, essential to study the effectiveness and impact of these mechanisms in the context of an active neuronal network.

Recently, Dr. Boucsein together with Dr. Nawrot established the new in vitro method of Dynamic Photo Stimulation [1], which allows to study activity-dependent phenomena in identified neurons in the acute slice preparation. It utilizes pulses of locally confined neurotransmitter release from a caged precursor to activate cells at predefined target locations within the slice. A fast sequence of several tens or hundreds of stimulation pulses per second can generate intense synaptic input in an identified post-synaptic neuron using intact functional synaptic projections. At the same time, the post-synaptic cell is accessible to conventional electrophysiological methods that have been used to reveal the above mentioned mechanisms.

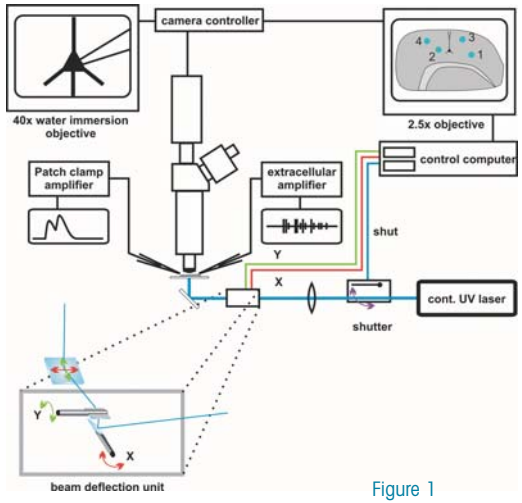


Figure 1

The particular strength of the new method is that it allows to activate neurons hundreds of microns away from the post-synaptic cell. Thus, pre-synaptic cells can be activated without directly stimulating the post-synaptic cell, so that the natural characteristics of the synaptic input can be preserved, in particular the specific strength, input location on the dendrite and spatial distribution of individual synapses.

In a first attempt to address the reliability of activity propagation using Dynamic Photo Stimulation, it was shown that synaptic transmission and dendritic integration of synaptic inputs can be highly reliable [1,2]. This was revealed by somatic measurement of the integrated memebane potential in response to identical repeated stimulation sequences that activated presynaptic neurons in rapid succession (cf. Figure 2).

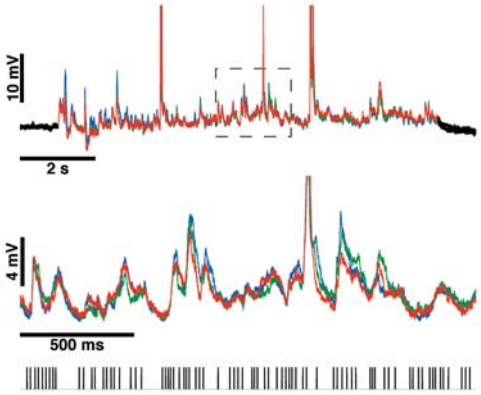


Figure 2

In how far this reliability is preserved under varying activity conditions is one of the questions that will be addressed in the group of Dr. Boucsein. ■ C.B. & MP. N.

Figure 1 legend:
For Dynamic Photo Stimulation, a conventional upright microscope is equipped with an illumination unit consisting of a continous UV-laser, a variable shutter and a beam deflection unit. When illuminating the slice tissue from below (through the bottom of the recording chamber), the spatial range is independent from the objective and the space above the slice is available for conventional recording or stimulation electrodes. Time resolution in this setup is appr. 1 millisecond for beam positioning and shutter opening, allowing for stimulation frequencies of up to 300 Hz.

Figure 2 legend:
Somatic voltage recordings from a layer V pryamidal neuron during 3 identical repetitions (colored traces) of a dynamic photostimulation sequence, 400 stimulations at 34 presynaptic sites during 10s (spikes clipped). The blow-up demonstrates the highly reproducible responses (avg. linear correlation is c=0.88). Tick marks indicate the temporal sequence of individual photostimulations.

[1]

C. Boucsein, M. Nawrot, S. Rotter, A. Aertsen, and D. Heck (2005) Controlling Synaptic Input Patterns In Vitro by Dynamic Photo Stimulation. J Neurophysiol 94: 2948

[2]

C. Boucsein, A. Aertsen, and M. Nawrot (2005) Precision and Reliability of Activity Propagation in the Neocortex. Soc Neurosci Abstr 35: 276.16

How our brain misleads us !

We continue our file on the various ways in which our brain misleads us. Thus, we suggest you to make the two tests hereafter:

1

Which is your reaction after having a quick look at this sign?

BEWARE OF THE THE DOG

- You move away for fear of being bitten
- You approach to check if the dog is really nasty
- You think that they could have read one more time their sign before displaying it

The expected answer is of course the last, but you had probably not noticed with the first reading the repetition of the article "the" on the sign. Normally: our brain does not take into account such details, but the global meaning of the sentence. Moreover, you will wonder in a few minutes if the word "nasty" should not be written after dog. It is a typical case of "wrong memories", because your brain cannot help thinking that if it is necessary to pay attention to the dog, it means that he is certainly nasty...

2

Take 10 seconds to count the number of " f " present in this sentence:

"The addition of the mistakes of deduction in the labyrinth of the brain led to astute capacities of discernment"

You counted 9 or 10 "f", whereas there are 13 of them! Our grey matter focuses instinctively on the important words, while forgetting to linger over the articles or the prepositions slipped between them. By reading the sentence, our reading seemed to us being analytical, by detailing letter by letter, whereas our brain does not function in this manner. Being accustomed to the reading, it leafs through text of a synthetic way, by spontaneously granting very little importance to the link-words, to concentrate only with the global meaning of the sentence. ■ S.K.

At the forefront of Drug Development and Research

FORENAP a key partner

FORENAP was created in 1986 and is a leader in the field of Neurosciences and overall brain diseases research in France. It is active in the clinical and preclinical development of new pharmaceutical compounds providing full range of in-services. This company is located at Rouffach, in France.

FORENAP carries out clinical phase I studies for all therapeutic areas in its 72-bed centre, specifically dedicated to CRO activities. Its expertise is recognised in field of CNS compound development. Thanks to its research activity and its unique technical platform FORENAP has developed tools to evaluate the pharmacodynamic effects of CNS drugs, as early as in phase I studies. The facilities and in-house expertises available at FORENAP are quite impressive: wake EEG, sleep EEG, a whole head 148 sensors Magnetoencephalography, 3 tesla Functional Magnetic Resonance, Computerised Neurocognitive tests, a Driving simulator; Body Sway, Pupillometry as well as a collaboration with a PET scan centre.

Thanks to the high quality of its research activities, FORENAP has been acknowledged as a WHO collaborating centre since 1997.

In addition FORENAP also carries out phase II clinical studies mainly in patients suffering from schizophrenia, sleep disorders, depression, anxiety, epilepsy, Alzheimer disease. ■ N.J.

FORENAP new organisation

Rémy Luthringer

PhD
CEO of FORENAP Pharma and FORENAP *frp*

Rémy Luthringer, will carry on his duties of Chief Executive Officer of FORENAP Pharma and FORENAP *frp*. He will act on the "Fondation Transplantation" authority for on site issues, at Rouffach.

The administrative organization has recently been adapted in order to improve the competitiveness of FORENAP Pharma and to increase the research efforts. As a consequence, FORENAP has been split into 2 different entities: a research and development company called Forephar (FORENAP *frp*) and the clinical research organization FORENAP Pharma. Both entities are now part of the "Fondation Transplantation" which is a state-approved and non-profit organism. The latter owns the company buildings and is in charge of improving the technical platform, while FORENAP *frp* is in charge of expertise and research and development.

The alliance between the "Fondation Transplantation" and FORENAP will allow to provide ourselves with new means and to stimulate employment, in respect with corporate culture.

André Galland

Board Director of FORENAP Pharma and FORENAP *frp*

André Galland, Director of "Fondation Transplantation" has also the position of Board Director of FORENAP Pharma and FORENAP *frp*.

More information see also FORENAP web site: http//www.forenap.asso.fr

Contact person for research projects: Nathalie JACOB, PhD: Mission Manager at FORENAP e-mail: nathalie.jacob@forenap.asso.fr

Formerly president of FORENAP Association, Dr. Alain Muzet, director of CEPA, CNRS-UPS 858, will keep supporting the company, on a part time basis, as Research Director of FORENAP *frp*. His main role will be to improve organisation of research activity at FORENAP *frp* in constant contact with academic research (University as well as national research institutes such as INSERM and CNRS). The latter will have through FORENAP the possibility to use the technical platform, to reach its large data base as well as its staff expertise, and this also from applied research viewpoint.

FORENAP belongs to the "Neuroscience Federative Institute" and often participates in projects requiring international collaboration with reference centres. It is involved in several European projects under the Sixth Framework programme (FP6).

Development of collaboration with key research partners at national and international levels as well as training of students at FORENAP in collaboration with academic institution will be two of the major issues of the new organisation of FORENAP *frp*.

Nathalie Jacob, Mission Manager at FORENAP is working at the interface of the FORENAP Pharma and FORENAP *frp*. Together with Dr. Alain Muzet, she is in charge of the management and coordination of research collaboration projects as well as European projects.

Therefore, with a referent support of the "Fondation Transplantation", the new organisation of FORENAP appears more adapted to create a dynamic of research combining academic approach, collaboration, publications as well as a pharmaceutical approach to speed up new drugs development process from Drug Discovery to Marketing Authorisation. ■ N.J.

Muzet - Manning

the Past and the Future in the study of human biological rhythms in Strasbourg.

As Alain Muzet is about to retire, let's look back, and forward, to the study of human biological rhythms in Strasbourg.

During the year 1966, the laboratory of Applied Physiology based in the Civil Hospital of Strasbourg, created and directed by Prof. Bernard Metz moved to the campus of Cronenbourg, where it became the Centre of Bioclimatic Studies (CEB). Since this time, the laboratory belongs to the CNRS, and focuses on human physiology, either human at work or human sleeping.

In the 60's, many French workers are exposed to hard working conditions (temperature, noise, humidity…) particularly in coal-mine and steelworks. The CEB, built up by the CNRS, includes ambitious infrastructures that reproduce extreme working conditions in climatic rooms, while in the meantime the lab proceeds in situ to recordings of physiological parameters at 600 meters under ground.

In the 70's, because of the increasing energy costs, because of the development of robots conceived to replace the human being at the hardest working environments and with the concomitant development of molecular biology and genetics, it becomes less and less attractive to study human physiology at work, both on an economic and scientific standpoint. Therefore, the CEB initiates close collaborations with French industrial groups interested in applied research. ■ F.B.

Alain Muzet and the Center of Applied Studies in Physiology (CEPA)

Alain Muzet joins the CEB in 1963 as a medical student. In 1986 he becomes assistant-director of the newborn Laboratory of Environmental Physiology and Psychology (LPPE).
In the 80's, supported by the CNRS, two main topics in the biomedical field are developed : "the human physical environment" as well as "sleep and vigilance". After many years studying the effects of noise on sleep, Alain Muzet develops new interests in lowered alertness in night and shift-workers. He starts fruitful collaborations with groups like Renault and Decathlon, the French Ministry of Environment, etc. In 1995, he finally achieves the creation of the driving simulator PAVCAS, a device unique in Europe!
In 1996, he creates the Centre of Applied Studies in Physiology (CEPA).

Alain Muzet who actively supports applied research in the CNRS, evokes for us some of the principal results the LPPE obtained since 1990 when he became director, and later the CEPA.

- Repeated exposure to noise during nocturnal sleep leads to a normalisation of the EEG response as well as the behavioural complaints of the sleeper. However, there is no attenuation of the cardiovascular response to noise, leading to a high correlation between nocturnal noise and the development of cardiovascular diseases such as myocardial infarction.
- Among many other results, the studies conducted on the driving simulator show in situ that young drivers (around 30) are less able to cope with reduced alertness while involved in a driving task, whatever the driver's experience. This result has been successfully exploited by the French Road Security Program.
- In much the same way, studies focusing on night and shift-workers have been used to enhance security in some French nuclear power plants.

Legend:

1. Physiology Study Centre
2. One of the climatic rooms of the Applied
3. Inside view

Portrait

Lilianne Manning will be the head of the Applied Physiology Study Centre in 2006, and will continue the work started by Alain Muzet.

FB: A cognitive neuropsychologist as head of the Applied Physiology Study Centre, it seems rather surprising

LM: *Alain Muzet's retirement coincides with a time of structural changes in the French Research organisms. Both my team and Jean Kriger's deal with clinical matters and will allow close collaborations with other research teams inside our lab as well as those belonging to Units, which will, very likely, form a unique larger lab. In this perspective, having been appointed to head this lab, far from being surprising, makes sense!*

FB: What can you say about these collaborations?

LM: *We are at the very starting point of our programme. However, you should have available our new lab structure fairly soon.*

FB: Can you enumerate the main characteristics of this common lab?

LM: *In general terms, the common lab should exhibit as its aims, fundamental technological research, the study of human and animal cognition as well as some characteristics of fundamental restoration in animals and the clinical approach in man. There is indeed, a thematic convergence in the programme of this new lab.*

FB: Can you describe the role of the Applied Physiology Study Centre in this common lab?

LM: *The Applied Physiology Study Centre has 11 members (lecturers, research officers) and 9 PhD students and several other people working in Neurosciences should integrate the lab before long. The team "Sleep and Alertness" puts together Alain Muzet's, Jean Krieger's and Patricia Tassi's teams and it will be headed by the latter. Research in this team includes therefore the study of both, normal and clinical characteristics of sleep. There is a further domain of applied research headed by V. Candas, which is maintained with no changes whatsoever. And there is my team.*

FB: We're very interested in your team; can you describe it in more details?

LM: *The team "Cognitive neuropsychology and perception" comprises André Dufour's branch of research concerning human perception and most particularly, the study of sensory interactions and my own research. Regarding my domain of expertise, we have obtained -after three years of working very hard- the neural pattern of autobiographical memory, in a self-paced event-related functional MRI design. Data were drawn from the healthy adult. Several aspects have been dealt with and taken together our results are most exciting. Papers are, naturally, in the process of publication. Anne Botzung's and Ekaterina Denkova's work was precious to get were we did. On those bases, we have started, together with Izzie Namer from the Nuclear Medicine Unit at the Hautepierre Hospital, studying patients with residual autobiographical memory. This topic comprises one of the aims within the cognitive neuropsych team, that is, to envisage a way to study potential reorganisation in human memory.*

FB: That's an ambitious program!

LM: *Yes, and to conduct such an ambitious programme, several different standpoints are under consideration. To give you an example, together with Edouard Hirsch and Serge Chassagnon, from the Neurology Unit at the Civil Hospital, we are analysing how inter-critic epileptic seizures influence memory consolidation. Again, our preliminary results are tremendously promising. Likewise, together with Jean-Pierre Vignal from the Neurology Unit at the Central Hospital (Nancy), and Bernhard Steinhoff from the Epileptic Centre in Kork, one of my Ph.D. students, Virginie Voltzenlogel and I are analysing the effects of longstanding epilepsy on remote memory. There is a third related topic under study for which I rely on the newly appointed Neuropsych Junior Lecturer, Olivier Desprès. He took up, indeed, an important part of the supervision of a Ph.D. student, Emilie Ritter and, together with Andreas Monch, from the Memory Clinic in Basel, we are working on detecting preclinical neuropsych signs in the MCI person. This is a longitudinal study which will benefit from the fMRI technique and should allow us, normally, both to determine an ensemble of tasks which are sensitive and to grasp some aspects in the course of "becoming" MCI.* ■ F.B.

CV Lilianne Manning

After her Ph.D., Lilianne Manning taught Neuropsychology at the Autonoma University in Madrid for several years before joining the Cognitive Neuropsychology team at the Radcliffe Infirmary in Oxford, UK. This was followed by a research officer position, which she gained at the Goldmiths' College, London, working with an MRC funding. She was then appointed as a clinical neuropsychologist at the National Hospital for Neurology, in London, headed by Elizabeth Warrington.

Back in France, she worked at different hospitals and was eventually appointed at La Salpêtrière in Paris. In 1999, she was invited as an associated professor at the Louis Pasteur University, Strasbourg and was appointed as permanent professor of neuropsychology the following year. She initiated a research team on Cognitive Neuropsychology housed by the lab headed by Bruno Will (UMR 7521). She has now joined the Applied Physiology Study Centre to be director in 2006. This lab is in the process of becoming associated with two other labs, the ex-UMR 7521 headed presently by Christian Kelche and the UMR 7004 whose director is Daniel Grucker.

The therapeutical power of magic

Program

Public Conference
"Magic & Therapy"

Sunday,
October 23rd,
2005
9.30 - 12.00 am

In our previous Newsletter (n° 9, p. 14-15), an article was dedicated to the international program called « Project Magic » which goal is to introduce magic into hospitals. Because this project combines the talents of professionals in the entertainment field and those in the medical field, it provides a quality of therapeutic training in advance of traditional rehabilitative programs and techniques The aim is not for a magician to act in an hospital, but really to accompany therapy by a real teaching of magic.

In order to explain and to promote the development of magic in hospitals, a first meeting will be organized by Dr. Jérôme Trouslard (President of the Magic Circle of Alsace (CMA) and scientist interested in studying the physiology of spinal cord neurons (UMR 7519 CNRS/ ULP Strasbourg)). ■ S.K.

Location:
Salon de l'hôtel
Holiday Inn,
20, place de Bordeaux
Strasbourg

Free admission
but due to a limited
conference room,
please address
a reservation e-mail to:
trouslard@yahoo.fr

Speakers:

Pierre Mougel (France), President of the association Magev (Magic for children tested by life). Mr. Mougel produces spectacles of magic for the hospitalized children. He will speak about the functioning and the aims of his association.

Patrick Hubert (Belgium) and **Pierre Greiner** (Switzerland) represent officially "Magic Project" in their country. Magic Project was developed in the USA by David Copperfield. Its goal is to learn turns of magic to therapists so that they use them in their therapeutic steps: functional rehabilitation, exercise of concentration, motor coordination etc

Jean-Pierre Eckly (France) is been working at the Sonnenhof centre in Bischwiller with mentally handicapped people. He will make a talk on the use and the training of magic in its work of teacher. Mr. Eckly staged a spectacle this summer with mentally handicapped persons.

Moderators:

Dr. Claudia Ammermann (Germany), child psychiatrist in Heidelberg and **Prof. Jean-Marie Danion** (France), Head of the Unit INSERM 666 -Clinical and experimental physiopathology of schizophrenia, Strasbourg.

These conferences will be given in French and are placed within the framework of the 39th French meeting of illusions in Strasbourg which will last on october 20th-23rd, 2005 in Strasbourg and bring together more than one thousand magicians. ■ J.T.

Program of the 39th meeting of illusions:
http://www.ffap-strasbourg2005.new.fr.

CMA (Cercle Magique Robert-Houdin
& Jules Dhotel d'Alsace):
http://julienlantz.free.fr/cma/index.htm

1st meeting & inauguration BCCN

October 10th-12th, 2005
Freiburg i. Br.

1st Meeting Bernstein Centers

The German government (Federal Ministry of Education and Science) launched last year a program for a National network for Computational Neuroscience. Four Berstein Centers for Computation Neuroscience were created, one of which is in Freiburg (also: Berlin, Göttingen, München) (see article in our Newsletter 7, p.8). The official inauguration of the BCCN Freiburg and first meeting of the Bernstein Centers will take place on October 10th-12th, 2005. You will find the program opposite. ■ F.D.

Number of participants limited
Contact:
Dr. Simone Cardoso de Oliveira
Information:
http://www.bccn.uni-freiburg.de

Short program

Monday, Oct. 10th

10.00-11.15 am:	Inauguration Ceremony of the BCCN Freiburg
12.00-1.00 pm:	Initiatives for International Networking Lunch, Setting up Posters
2.00-5.20 pm:	Scientific Session I: Dynamics
Evening:	Bernstein Lecture by Haim Sompolinsky & Buffet

Tuesday, Oct. 11th

9.00-12.30 am:	Scientific Session II: Variability & Reliability Lunch, Poster Session
2.30-6.00 pm:	Scientific Session III: Adaptivity
Evening:	Conference Dinner

Wednesday, Oct. 12th

9.00-12.20 am:	Scientific Session IV: Space-Time

Coming events

October

1st-30th, 2005 Photography exhibition
"Sight and Photography"
Strasbourg

3rd, 2005 Public conference
"How our eyes explore the word?"
Strasbourg

10th-12th, 2005 Inauguration &
1st meeting of the BCCN
Freiburg i. Br.

14th-16th, 2005 Tri-national PhD Student
week-end
Munzingen

23rd, 2005 Public conference "Magic & therapy"
Strasbourg

26th, 2005 Workshop
"Cerebral processing of emotions"
Basel

November

3rd-5th, 2005 Symposium "Schizophrenia"
Ottrott

5th, 2005 Studentisches Symposium
"Erkrankung des zentralen
Nervensystems"
Freiburg i. Br.

December

12th-16th, 2005 Winterschool Neurogenomics
Basel

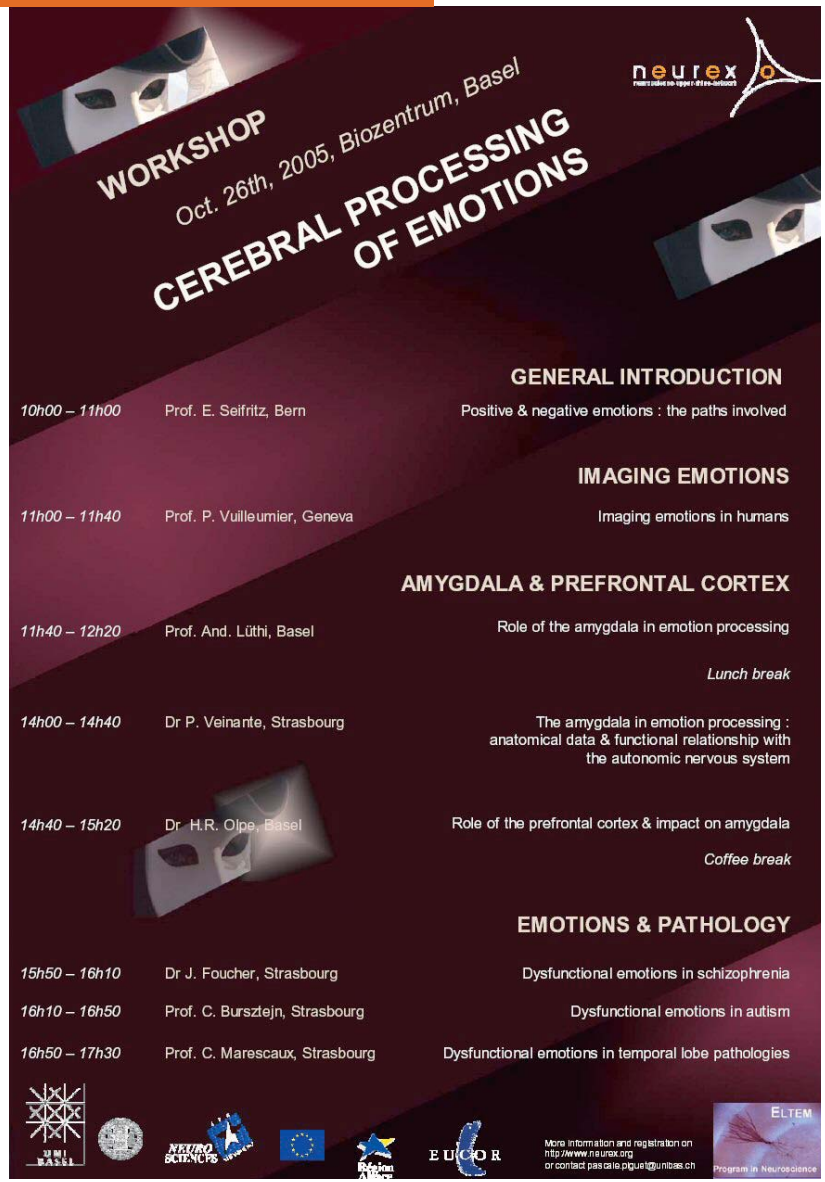
Winter 2005/2006

Workshop
"Synaptic physiology: a transition
from electrophysiology to imaging"

Workshop
"Electrophysiological and
neuroimaging approaches of
neurocognitive processes"
Rouffach-Forenap

Basel
Strasbourg
Freiburg i. Br.

Coming soon



Symposium on Schizophrenia

Nov. 3rd-5th, 2005

Coming soon

Thursday 3rd

• Psychopathology Session

9.30-10.30 am	Basic Symptoms and prodromalphase of schizophrenia, Prof. Huber (Bonn)
10.30-10.55 am	Late onset schizophrenia - is it really a valid entity? A. Riecher-Rössler (Basel)
10.55-11.25 am	Coffee break
11.25-11.50 am	Unusual experiences of everyday life to pathology, M. Belz-Merk (Freiburg)
11.50-12.15 am	Early recognition of psychosis - the Basel FEPSY Study, J. Aston (Basel)
12.15-12.40 pm	Borderline personality disorder and its relation with schizophrenia, K. Lieb (Freiburg)
12.40-1.00 pm	Brainstorming session on psychopathology
1.00-2.30 pm	Lunch break

• Cognitive session

2.30-3.30 pm	Selective synthesis of cognitive abnormalities in schizophrenia and a proposal for a framework, J.-M. Danion (Strasbourg)
3.30-3.50 pm	Reduced or increased influence of non-pertinent information in patients with schizo-phrenia? A. Giersch (Strasbourg)
3.50 - 4.10 pm	How do schizophrenic patients perceive simultaneity? L. Lalane (Strasbourg)
4.10 - 4.35 pm	Coffee break
4.35 - 5.00 pm	Attentional and executive deficits in subjects at risk for schizophrenia - Results from the FEPSY study, M. Pflüger (Basel)
5.00 - 5.20 pm	Predicting role functioning in schizophrenia (neurocognition & social cognition), R. Vauth (Basel)
5.20 - 5.40 pm	Preserved inhibition abilities in patients with schizophrenia, P. Salamé (Strasbourg)
5.40 - 6.05 pm	Differential effect of impaired time processing memory accurancy and insight in patients with schizophrenia, E. Bacon (Strasbourg)

• Motor abnormalities in schizophrenia

6.05 - 6.40 pm	Fine motor & eye movement disturbances in subjects at risk for schizophrenia and patients with a first episode of psychosis - Results from the FEPSY study, U. Gschwandtner (Basel)
6.40-7.00 pm	Brainstorming session on cognition and minimal brain damage

Friday 4th

• Clinical neuro-physiology in schizophrenia

9.00-10.00 am	Dopamine and signal-to-noise ratio in schizophrenia, G. Winterer (Mainz)
10.00-10.25 am	Disturbed circadian cycles in schizophrenia patients, A. Wirz-Justice (Basel)
10.25-10.50 am	The P50 and the PPI in schizophrenia, P. Boeijinga (Rouffach)
10.50-11.20 am	Coffee break
11.20-11.45 am	EEG findings in individuals at risk for psychosis and patients with a first episode of psychosis - Results from the FEPSY study, P. Fuhr (Basel)
11.45 am-1.00 pm	Lunch break

• Anatomical and functional imaging in schizophrenia

1.00-2.00 pm	Disturbed frontobasal brain circuits in schizophreniform disorders: evidence from imaging and neuroanatomical research, Tebartz van Elst (Freiburg)
2.00-2.25 pm	Functional imaging of memory retrieval in patients relative to controls, P. Vidailhet (Strasbourg)
2.25 - 2.50 pm	Extrapyramidal motor symptoms and their relation to day-time performance, G. Stoppe (Basel)
2.50-3.15 pm	MRI morphology in pre-psychotic patients, S. Borgwardt (Basel)
3.15-3.40 pm	The glutamate hypothesis of schizophrenia: evidence from a MRS study, Tebartz van Elst (Freiburg)
3.40 - 4.10 pm	Coffee break

• The dis-integration hypothesis of schizophrenia

4.10-5.10 pm	Plenary lecture: Integration and synchronization in cortical networks - a computational viewpoint, A. Aertsen (Freiburg)
5.10-5.35 pm	From disconnectivity to disintegration in schizophrenia, J. Foucher (Strasbourg)
5.35-6.00 pm	Abnormalities of evoked rhythm in schizophrenia, first-degree relatives and control subjects, Y. Hodé (Rouffach)
6.00-6.25 pm	Is there a deficit of binding in working memory by schizophrenic patients? D. Luck (Strasbourg)
6.25-7.00 pm	Brainstorming session on the significance of physiological abnormalities

Symposium on Schizophrenia

Nov. 3rd-5th, 2005

Coming soon

Saturday 5th

• Emerging therapy

8.30-9.30 am	Cognitive therapy for schizophrenia : an overview, R. Vauth (Basel)
9.30-9.55 am	Oestrogen effects in schizophrenia and their potential therapeutic implications, A. Riecher-Rössler (Basel)
9.55-10.20 am	Cognitive remediation: training of emotional intelligence, R. Vauth (Basel)
10.20-10.35 am	Cognitive remediation for patient rehabilitation at work - the Interreg IIIb European program, I. Offerlin-Meyer (Strasbourg)
10.35-10.55 am	Coffee-break
10.55-11.20 am	rTMS for the treatment of refractory hallucinations, A. Picard (Strasbourg)
11.20-11.45 am	Promoting compliance and quality of life in schizophrenia, K. Rabovsky (Basel)
11.45 am -1.00 pm	Lunch break

• Genes and schizophrenia

1.00-2.00 pm	An overview of genes in the schizophrenia spectrum, M. O'Donovan (Cardiff, UK)
2.00-3.00 pm	22q11 and the schizophrenic psychosis, S. Eliez (Genève)
3.00-3.25 pm	Differential contribution of D2 receptors in striatal neuromodulation, E. Borrelli (Strasbourg)
3.25 am -3.55 pm	Coffee break

• Animal studies

3.55-4.55 pm	An overview of animal models, Prof. Feldon (Zürich)
4.55-5.20 pm	Animal models presenting negative symptoms of schizophrenia, G. Sandner (Strasbourg)
5.20-5.45 pm	Neuroimaging in animal models of Schizophrenia, C. Risterucci (Basel)
5.45-6.10 pm	The stop-mouse model, A. Nehlig / N. Boehm (Strasbourg)
6.10-6.35 pm	The network of latent inhibition, Y. Peterschmitt / A. Louilot (Strasbourg)
6.35-7.00 pm	Animal model for delusion and its pharmacology, S. Carnicela / P. Oberling (Strasbourg)

Job offers

Last updated on: September 15th, 2005.
More details on http://www.neurex.org
7 new positions advertised since last publication.

PhD Student Position (09/15/2005)

Field: Behavioral and cellular neurophysiology
Location: Basel, CH

Post Doctoral Fellow (08/22/2005)

Field: Neurobiology
Location: Allschwil/Basel, CH

PhD Studentship (08/08/2005)

Field: Computation neurophysiology
Location: Freiburg, G

Post Doctoral Fellow (08/12/2005)

Field: Neurobiology
Location: Strasbourg, F

PhD Studentship (06/29/2005)

Field: Neurobiology
Location: Homburg-Saar, G

PhD Studentship (06/21/2005)

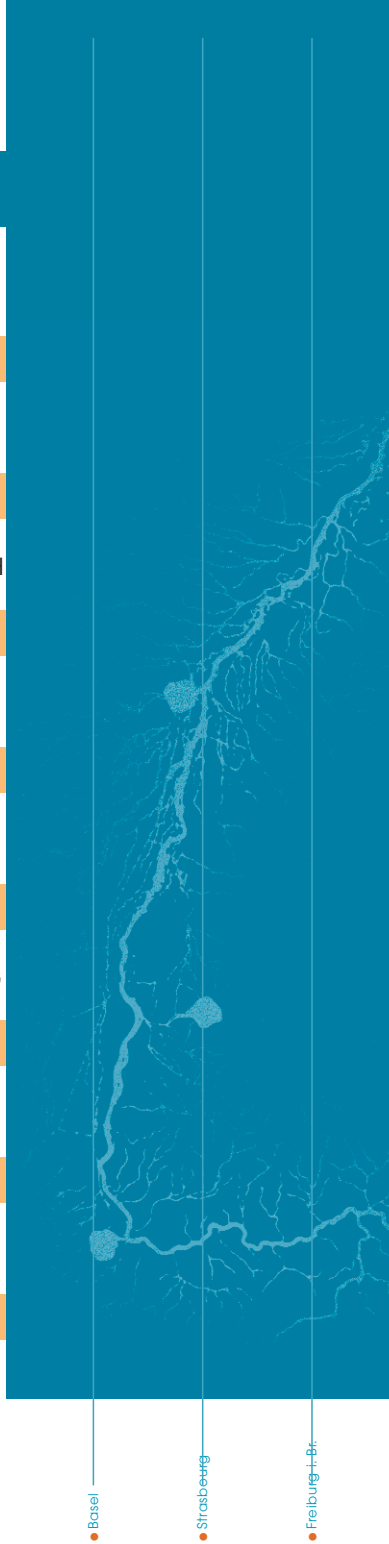
Field: Neurotransmission & cognition
Location: Strasbourg, F

PhD Studentship (05/30/2005)

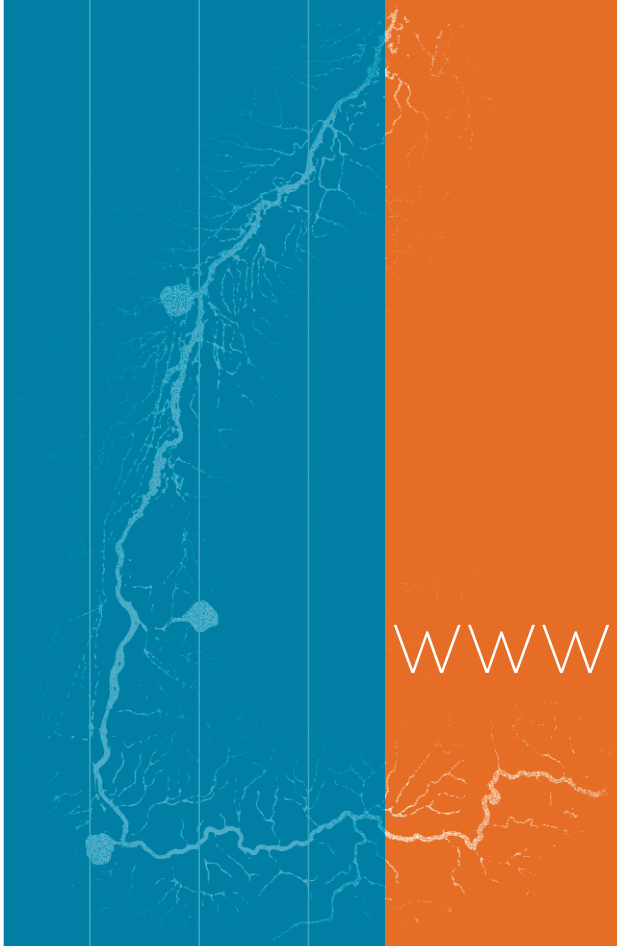
Field: Neurogenetics
Location: Basel, CH

PhD Studentship (04/22/2005)

Field: Neurobiology
Location: Basel, CH



neurex
neuroscience upper rhine network



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