**Åsa Petersén leads FENS School on metabolism**

In the summer of 2011 Åsa Petersén will repeat last year’s FENS School on “Metabolic Aspects on Chronic Brain Diseases”. In a fast expanding field young scientists will get a chance to network and spark new ideas in the cross section between neuroscience and metabolism.

**How did this idea come about?**

The idea came from a workshop on metabolic changes in HD a few years back. We thought it would be valuable to create an opportunity for young scientists to learn more about this emerging field where metabolism and neuroscience intersect. The school we organized in 2009 turned out really well, and we decided to organize it a second time now. We would like to inspire more people to think of chronic brain disorders in a broader sense and therefore cover classic neurodegenerative disorders such as HD, synucleinopathies and ALS as well as schizophrenia and obesity.

**What is so exciting about this research?**

The area in the crossroads of metabolism and neuroscience is particularly fascinating as it is an unknown territory that requires that one thinks outside of the box. The molecular pathways being untangled hold great therapeutic potential for a wide range of diseases and I therefore think that it will gain increasing attention in the near future.

**In what ways will this school benefit young researchers?**

We’ll provide an exciting lecture program on clinical and molecular aspects of chronic brain disorders and metabolism as well as on specific experimental techniques, ethics and publishing. There will also be a grant writing contest where new ideas can be tested. The school can give young researchers a unique opportunity to gain novel insights into metabolic aspects of brain diseases.

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**NEWS IN BRIEF**

**RESEARCH ON ALPHA SYNucleIN GETS BOOST**

Anders Björklund has received a grant of 3 112 814 SEK from the Ragnar Söderberg Stiftelse to continue his progressing research on the alpha-synuclein protein. The misfolding of the protein is a key step in the nerve cell damaging process in Parkinson’s disease. The Björklund research team aims to test out two new ideas of blocking the alpha-synuclein induced damage process. One study will try to activate a survival factor, Nurr 1, in order to induce the cellular expression of a particular receptor that is of key importance for the survival of the cell. The second idea is based on stimulating the breakdown of aggregated alpha-synuclein in the affected cells. The studies will be performed in a rat disease model developed in Lund, based on the use of gene carrying AAV-vectors, making it possible to selectively express therapeutic genes in the dopamine producing nerve cells in the midbrain. The results, if successful, may lead to new treatments in blocking the underlying progression of the disease in Parkinson patients.

**NEW FINDINGS SUGGEST NOVEL THERAPIES FOR DYSKINESIA**

A new study, in part produced by the Basal Ganglia Pathophysiology Unit, gives hope of an antidyskinetic treatment based on the inhibition of signalling inside cells in the brain’s motor center, the basal ganglia. For the first time intracellular pathways have been shown to play a significant part in L-DOPA induced dyskinesias in Parkinson patients.

The study, published in the American PNAS journal, successfully links the hyperactivation of a certain signalling pathways in the basal ganglia to the development of L-DOPA induced dyskinesia. Through experiments in mice and non-human primates first author Stefania Fasano has shown that inhibition of the intracellular pathway dramatically reduces the dyskinetic side effects of L-DOPA medication.

**MEMORABLE RETREAT SUGGESTS 2011 REPEAT**

On December 8-9 a swarm of scientists descended upon the quaint village of Båstad in northwestern Skåne for the annual Bagadilico & Neurofortis retreat. This was the last joint get-together as Neurofortis ceases to exist at the end of the year. The long lived research program has laid the foundation for a lot of exciting research that will continue to put Lund on the map.

The retreat opened up with an inspirational lecture dubbed “Sickly Healthy” by Leif Ögård who has been living with Parkinson’s for many years. The talk presented us all with a revealing look into the everyday life of a Parkinson patient - giving food for thought to the researchers following him at the podium for the coming two days of scientific exchanges.

The getaway in Båstad was a chance for our younger scientists to take center stage with inspired presentations on a wide range of subjects, showing the depth and width in projects taking place within the two research networks. Vice Coordinator Patrik Brundin expressed in his closing remarks a strong wish to return next year, a sentiment that was given a resounding approval by all retreaters.
The opportunity to speak directly to scientists attracted a full crowd to the first ever Parkinson Café in Stockholm. Previously geographically challenged Stockholmers were clearly happy to see the third Parkinson Café go on tour to the Swedish capital. A jam-packed room watched the café get underway with neurologist Gesine Paul on a shaky phone line from her snowed in house in the Skåne countryside.

Dr. Gesine Paul spoke enthusiastically about the Parkinson stem cell research taking place in Bagadilico laboratories. A layman’s summary of the basics surrounding stem cell research was followed by in depth explanations of two exciting new clinical trials taking place in Lund at the moment.

Questions were immediately raised as to whether it would be possible to take part in the trials. Others wondered when the trials would end up actually helping patients and produce effective drugs.

- Information about the possibility of taking part in clinical trials rarely reach us patients, that’s a shame because I think that a lot of us would actually be willing to contribute to this exciting research, one participant said.

Dr. Gesine Paul regretted the lack of communication with the broader Parkinson community whilst leaving her contact details and encouraging everyone to let her know in what way they were interested in contributing.

2011 a key year for trials

A main target of stem cell research in Parkinson’s disease is to develop dopaminergic cells that can replace the ones that die as a result of neurodegeneration in the “substantia nigra” of the brain.

One goal in the ongoing research is to develop stem cells in order to reach a stage where patients can be injected with healthy dopamine neurons directly into the brain, successfully replacing the lost cells. A new world-wide trial that will be carried out in Sweden, Germany, U.S.A., France, the UK and Canada is now underway.

- This first trial is called TRANSEURO. It is a multicenter study that will focus on the transplantation of foster cells, not stem cells. We know that it will take at least two years before the transplant has matured in the brain enough to have a positive effect. But when the cells survive and integrate the outcome can really make a big difference in the life of the patient.

Another avenue in Gesine Paul’s stem cell research is to rescue neurons in the adult brain. A growth factor tested in animals has shown promising results and the ongoing trials will move into a critical phase in 2011.

- It has been shown that we have
new neurons being developed in the brain throughout our lives. Our goal is to either stimulate these nerve cells, or other cell types, to secrete factors that may help to rescue or protect the dopaminergic cells that are lost through the neurodegeneration in Parkinson’s disease, explained Gesine Paul.

The study will go into a more intense second phase in the coming year, a trial that will determine the effect of the growth factor in humans. If successful this therapy may be the first of its kind, offering patients a clinically viable and possibly neuroprotective treatment for Parkinson’s disease.

**Bridging the gap**

The second part of the Café dealt with a topic that sparked an immediate discussion among participants. Historian Elin Bommenel spoke about the distance between scientists and the general public. She discussed with the guests the question of what makes research credible. A lively debate followed where some bemoaned an apparent tendency with scientists to remain in their ivory towers failing to see the patient as the end station for their research.

Elin Bommenel challenged participants to share their ideas on what constitutes bad science.

- Bad science is science that doesn’t lead to improvements for the people, sooner or later, said one café guest.
- Bad science is science that doesn’t focus on the patient, for example leaving us with medication that almost no one can afford, another participant shared.

The talk continued to center around the everyday realities and demands faced by scientists in their work situations. The connections between producing sound science and the communication of those results is not always part of the same strategy. While scientists have an obligation to bridge this gap it is not a one-way street.

The final message conveyed by Dr. Bommenel was to encourage listeners to become actors by engaging scientists in a discussion, to search out opportunities where they themselves can become part of an continuing dialogue.