

Anders Björklund receives historical Pritzker Prize

Bagadilico research leader Anders Björklund is awarded the Robert A. Pritzker Prize for his many years of leadership in Parkinson's research. The price has long been an institution in American architecture and is this year, for the first time, awarded to honour research in medicine.

Anders Björklund will receive 100,000 dollars to help strengthen current research projects at Lund University. The price is awarded for professor Björklund's significant contributions to the development of therapeutics in Parkinson's disease and for an outstanding commitment to mentoring the next generation of scientists.

Anders Björklund is best known for his pioneering experiments that led to nerve cell transplants in Parkinson's patients in 1987. Today, Anders Björklund is heading a research effort with the aim of developing tailor-made stem cells to replace the brain cells that are harmed in Parkinson's disease. For the past decade his research team has also led efforts to develop treatments for levodopa-induced dyskinesias.

The prize is awarded by the Michael J. Fox Foundation, the world's leading private research funder for Parkinson's disease. Anders Björklund has long been an active partner and since 2005 holds a position on the organization's Scientific Advisory Board. Michael J. Fox himself is noticeably pleased with the selection of recipient; "Anders has long been an important partner to our foundation, he embodies qualities such as innovation and creativity in the lab - he is a true giant in Parkinson's research".

Anders Björklund is most proud of the emphasis put on his role as a mentor over the years. "I have had the privilege to mentor many gifted researchers who have since moved on to play an important role in research on neurodegenerative diseases".

NEWS IN BRIEF

ANGELA CENCI-NILSSON GETS GRANT FROM HJÄRNFONDEN

Angela Cenci Nilsson was recently awarded a 500.000 SEK grant from Hjärnfonden for her research on new treatments for L-Dopa induced dyskinesias in Parkinson's disease.

Hjärnfonden works to fund research on diseases, injuries and disabilities related to brain. The money is donated by individuals and businesses. The appropriations of 500 000 SEK have been awarded annually since 2006.

For more information on the grants for 2011 - [Click here](#)

BAGADILICO BREAKTHROUGH PROVES SKIN CELLS CAN BE TURNED INTO BRAIN CELLS

A research breakthrough by Malin Parmar's research group has proven that it is possible to reprogram mature cells from human skin directly into brain cells, without passing through the stem cell stage.

The unexpectedly simple technique involves activating three genes in the skin cells; genes which are already known to be active in the formation of brain cells at the foetal stage. By reprogramming connective tissue cells, called fibroblasts, directly into nerve cells, a new field has been opened up with the potential to take research on cell transplants to the next level. The discovery represents a fundamental change in the view of the function and capacity of mature cells. By taking mature cells as their starting point instead of stem cells, the Lund researchers also avoid the ethical issues linked to research on embryonic stem cells.

Head of the research group Malin Parmar was surprised at how receptive the fibroblasts were to new instructions. "We didn't really believe this would work, to begin with it was mostly just an interesting experiment to try. However, we soon saw that the cells were surprisingly receptive to instructions."

MUTANT HUNTINGTIN STUDY IS ARTICLE OF THE MONTH

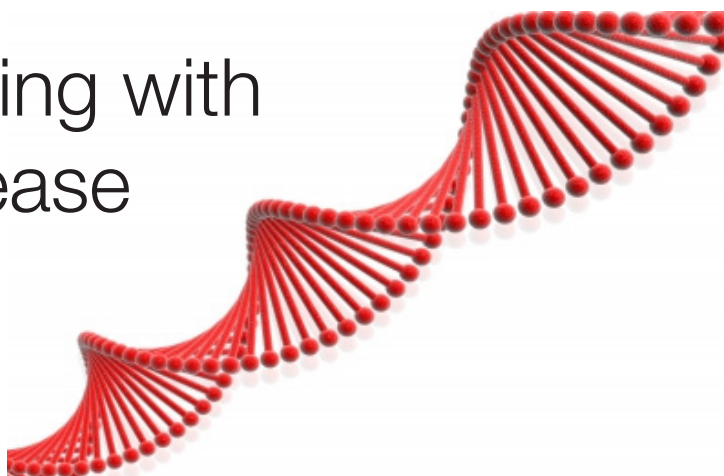
The paper "Mutant huntingtin causes metabolic imbalance by disruption of hypothalamic neurocircuits", published in *Cell Metabolism* 13(4) 428-439, 2011, was selected Article of the Month at the Lund Medical Faculty.

Despite considerable scientific efforts over several decades, the chain of cellular events that leads to the loss of brain functions remains unclear. Attention has long been focused on the area of the brain called the basal ganglia, but it has recently been suggested that there is more widespread pathology involving other anatomical brain regions such as the hypothalamus. This notion is confirmed by this recent Bagadilico study, elected as the Lund Medical Faculty Article of the Month for May 2011.

The study shows significant changes in the brain's hormone control centre, the hypothalamus, in Huntington's disease. In a series of experiments on mice, which had the mutated Huntington's protein injected into this area of their brains, the animals soon demonstrated a reduced ability to regulate their metabolism. "The changes we see in the mice's brains are similar to those we have previously observed in the brains of Huntington's patients", says doctor and researcher Åsa Petersén.

Reflections on HD

The realities of living with Huntington's disease



TEXT & PHOTO: JENS PERSSON

What does it mean to live under the threat of a hereditary genetic disease? How does one approach the question of finding out whether you are carrying that defective gene? These questions and many more were posed during Bagadilico's 'An evening with Huntington's Disease'. The event was inspired by a recently released book on Huntington's disease, a book that has caught the attention of the Swedish media.

The book 'We were supposed to grow old together' is a naked depiction of the struggles inherent in the everyday life of a couple facing the dreaded possibility of a life with Huntington's disease. Petra Lilja Andersson tells the story of a woman, Maria, whose family has a history of Huntington's disease. The author follows her and her husband as they ponder the difficult decision

on whether to take a genetic test or not. After what seems like a lifetime of weighing the pros and cons she finally decides that there's no way around it, she has to know. The negative result turns their world upside down and the second part of the book illustrates how the couple handles the real life consequences of trying to deal with the inevitability of the disease.

The author of the book, Petra Lilja Andersson, spent six months with the couple in an effort to lay bare the realities of facing a grave illness like Huntington's disease. The preparations for writing the book were preceded by long, often painful, conversations with Maria and Erik where they shared moments of tears and laughter. Petra told the audience about the personal convictions that led her to write the book.

- For a long time I've worked

with real life stories as a method in my role as an educator at the nurse's program here at Lund university. With this story it has been important to raise the debate on Huntington's and gene testing, a debate that's growing in our society today. It's also a story about the individual; for example, how do you reason when you know

that you only have a certain time to live?

Petra Lilja Andersson continued to talk about the many

hard decisions that faced Erik and Maria. Would it be fair to get another child? How would they deal with their daughter Julia and the risk that she also may be carrying the defective gene? As the story unfolds the difficult questions keep piling up, often times left unanswered. The point of Dr. Andersson's story is not, however, to try to give all the answers. It is the story itself.

"It's been important for me to raise the debate on Huntington's and gene testing, a debate that's growing in our society today"



Three perspectives on HD. Åsa Petersén, Petra Lilja Andersson and Jan Wahlström spoke to a packed Belfragesalen about different aspects of Huntington's disease. Åsa Petersén offered a scientific background of the disease, Petra Lilja Andersson shared the real life stories depicted in her book and Jan Wahlström gave food for thought on the future of genetic testing.

The tale of Erik and Maria sheds light on the delicate matters surrounding gene tests and how they should be conducted and followed-up. It also raises issues like the future of commercial gene testing and how society in general deals with people living with a progressive neurodegenerative illness.

What does the future hold?

Bagadilico's Åsa Petersén, one of Europe's leading researchers on future therapies for Hunting-

ton's disease, talked to the packed room about the hard facts on Huntington's disease. Her latest research has unequivocally shown that the brain's hormonal centre, hypothalamus, is importantly involved in the neurodegeneration in Huntington's disease. The abnormal activities discovered in the hypothalamus are believed

to lead to loss of appetite, depression and sleep disorder - all symptoms that appear years before the motor symptoms that have long characterized the disease.

Åsa Petersén's research team is currently working on a method to turn of the Huntington gene.

- Our idea is to turn off the mutated gene in the hypothalamus. The problem is that we

“What good will commercial genetic tests do for the person at home who is left without professional medical counseling”

don't want to turn off the normal Huntingtin gene, which still has an important function. We now hope to be able to refine our method and focus specifically on the mutated Huntingtin.

As the evening drew to a close Jan Wahlström, professor in medical genetics, spoke to the audience about the ethical aspects of commercial gene testing. In his view, the number one objection towards private companies

entering the sphere of genetic screening is the lack of medical expertise and counseling offered. What good does the information on a certain risk do if the person at risk doesn't know how to deal with this information? Jan Wahlström also raised the problematic question concerning gene testing for certain hereditary diseases where an unknown amount of factors lead to whether a person will become sick or not.

- Often times the researchers don't even know how to analyze these results with any certainty, what good will they then do the person at home who is now also left without professional counseling. I think we are facing an explosive growth in this area – taking us from treating diseases to trying to stop them before they break out. This is an area that must be discussed, not only in closed rooms among philosophers, but typically in forums like this one today.

Attitudes on Genetic Testing



Nationwide survey shows ambiguity towards gene tests

TEXT : JENS PERSSON

As the science of genetic testing rushes ahead, some would say with blinders securely on, voices are raised that the views of the people may be left unheard. In an effort to close the gap between the scientist in the lab and the man on the street the Bagadilico Cultural Team initiated a nationwide survey on genetic testing for hereditary diseases. The poll results reflected the diverse opinions one could expect from Sweden, a globalized nation in the 21st century, as the data offered no clear-cut answers from the general public. However, some trends were discernable, a few of them quite surprising.

Faced with the decision of knowing whether you are carrying the gene for an incurable disease or not, only one in four said that they would want to know. When asked about testing for treatable genetic diseases, 65

percent said they would want to know their genetic status. In a third line of questioning people were asked if they would consider changing lifestyles if that could reduce the risks of developing a certain genetic disease. Here, men and women were somewhat divided. 45 percent of the women said they would consider changing lifestyles, whereas only 36 percent of the men told pollsters they were ready to do so.

The survey clearly raises a few questions on what drives medical research on genetic diseases today. Are scientists listening to what the public wants? Are tax funds spent in accordance with democratic principles? How do people in general feel about the proposed benefits of genetic testing? Ethnology Professor Susanne Lundin, who initiated the study, feels that there is a lot to gain from the poll results, both for medical and cultural researchers.

- What medical researchers want are clear answers on where science should be directed. They

need to know that they are investing time and money in an area where people want to see the development of new treatments. There is little point of developing medical science for its own sake, especially in areas where society isn't really looking for solutions.

- From a cultural perspective this is a matter of democratic processes. Who should have a say in where our common funds are directed? Should it be medical science, certain diseases groups or the general public? This study could be seen as an attempt to foster a democratic dialogue on the questions of funding and ethics surrounding genetic testing.

Throughout history frontline medical science has pushed cultural boundaries. Operating in a moral grey area puts certain responsibilities on the communicational skills of medical experimental scientists. A telling example from Japan in the 1990s illustrates the disadvantages of not communicating with the public. When heart transplants were made possible in the 1960s

we had to change the concept of death from heart-dead to brain-dead. This turned out to be a fairly quick process in the West but the Asian cultural values were not as easily swayed. When the first heart transplant was performed in Japan in the late 1990s it was permissible from a legal perspective but the public answered with an immediate outcry and the surgeon was ultimately accused of murder.

The Japanese example is perhaps somewhat far-fetched but it underlines the importance of a continuous dialogue between researchers and the public. Susanne Lundin believes that it is imperative for medical science to keep an ear to the ground, trying to understand the cultural landscape in matters concerning sensitive questions in experimental science.

- What I think is really important to emphasize is that when doing these type of polls and when you are looking for ONE clear-cut response from the public this survey shows, like so many others, that you cannot get one answer, the public is always divided. There is ambivalence, and the results never tell one simple story. Medical researchers often want a straight answer, yes or no. What you get in reality is always division, you can see tendencies but above all there is ambivalence.

-This makes the matter much more complicated of course. However, at the same time it tells us that there is a great need for continued communication between researchers and the public. These are such big questions that there simply are no straightforward answers. One realizes this by just asking oneself the same questions. What this tells us is that there is a need for dialogue. A need for medical science to be

willing to take in what the public thinks, even if it is ambivalence, and that we develop built-in patterns for constant communication.

Genetic testing has been a hot potato in the Swedish media during the spring. Many are predicting the birth of a new industry as private companies prepare to enter what is expected to be a booming business in a few years. It seems, now more than ever before, that it is of great importance to maintain a productive dialogue

with the public on the complex matters surrounding genetic testing. With this multi-disciplinary effort Bagadilico is looking to do its part to get the ball rolling.

- This has been a first important step and the collaboration across disciplines has worked extremely well. It all looks very promising for the future multi-disciplinary endeavours within Bagadilico, says Susanne Lundin as she prepares herself for a well-deserved summer holiday on Österlen.



Responsible Science. Susanne Lundin believes that scientific advances have to be communicated to the public, otherwise they are lacking in legitimacy. This latest survey is an effort to improve on the national dialogue on genetic testing.