BAGADILICO News
July/August, 2012

## SUSANNE LUNDIN ELECTED TO THE ROYAL SWEDISH ACADEMY OF SCIENCES

***Bagadilico's cultural conscience, Susanne Lundin, was elected to the Royal Swedish Academy of Sciences this summer. Together with public health media phenomenon, Hans Rosling, she is now part of the age-old academy whose overall objective is to promote the sciences and strengthen their influence in society. The phone call from the Academy secretary caught Susanne completely off guard. She did not even know she was nominated when the news reached her.***

*- It was a big surprise, yes! I got a phone call where they explained that I had been elected. I was quite shocked actually but very happy of course. As a humanist, and especially as a woman, it is perhaps even more surprising but all the more gratifying.*

***Why do you think that you were selected?***

*I know that I was chosen in part because of my cross-disciplinary work, with one leg in cultural sciences and on in medicine, having opened up a new field of research. This is of course also tied to my efforts within Bagadilico, which feels extra good.*

***What does it mean to be a member, in practical terms?***

*- First of all there are regular meetings where we discuss what type of research that should be conducted in Sweden and internationally. Obviously the organization is a kind of power player in Swedish research. But, in all hoesty, I know very little about my duties. My first meeting will be in a few weeks. As far as I can understand my job is to bring a new perspective on what direction research should take. Besides that, it was fun to be in my age and to hear that I am part of a regeneration process.*

***Tell the king I said hi when you're inaugurated***

*Haha, I actually met him during last year's Nobel Prize party but I'll be sure to do that.*

# News in brief

## MALIN ÅKERBLOM GETS ARTICLE OF THE MONTH

The article "MicroRNA-124 Is a Subventricular Zone Neuronal Fate Determinant", published by Johan Jakobsson's group with Malin Åkerblom as first author, has received the title of article of the month from Lund Medical Faculty Monthly. Here is a quote from the editors:

"In adults, new neurons are continuously formed in a few discrete regions of the brain. In an article published in a recent issue of the Journal of Neuroscience, Åkerblom and colleagues report how they found that small non-coding microRNAs (miRNAs) play a crucial role in adult neurogenesis by regulating the differentiation of progenitor cells into neurons.

Adult neurogenesis has been implicated in numerous brain disorders, including Alzheimer's disease and various psychiatric conditions. Therefore, the finding that a miRNA governs this process opens up new possibilities to understand and treat these disorders. The results reported by Åkerblom et al. also highlight the importance of miRNAs in cellular processes in the brain, and indeed they seem to refute previous speculations that these molecules are only involved in the fine-tuning of various functions in brain cells. Thus, there is now evidence that miRNAs play a crucial role in governing important cellular processes and fate decisions."

## NOMINATE FOR "THE BRAIN PRIZE"

Help the private Danish foundation, the Grete Lundbeck European Brain Research Foundation, identify candidates for the € 1 million prize, The Brain Prize. The award recognizes highly original and influential advances in research on the nervous system. If several researchers have contributed significantly to this achievement, more than one individual may receive the Prize. Nominees can be of any nationality but the research for which they are nominated must have been conducted in Europe or in collaboration with researchers in Europe. Last day for nominations is September 15th.

It was awarded for the second time this year, to Christine Petit, France, and Karen Steel, England.

To learn more about how to nominate, Click Here

## SciLifeLabs HOLDS LUND INFORMATION MEETING

On October 25th SciLifeLab Stockholm will hold an information meeting in Lund. Following an invitation from the MoReLife network, members of SciLifeLabs in Stockholm will be visiting Lund to inform life science researchers and other interested parties in Lund/Malmö about the technology platforms and services at SciLifeLab that are available to all researchers in Sweden. Learn more at www.scilifelab.se or check out the programme, Click Here.

## VAN ANDEL HOSTS GRAND CHALLENGES IN PARKINSON'S

On September 19-20 a host of Bagadilico scientists travel to Michigan to take part in the Van Andel Institute's inaugural "Grand Challenges in Parkinson's". The two-day symposium will include presentations by international speakers and world leaders in Parkinson's research. The Jay Van Andel Award for Outstanding Research in Parkinson's Disease will also be presented for the first time ever. ***Click Here for a link to the GCP website***

# SCIENCE'S RIPPLE EFFECT

## How Biomedicine Shapes Laws, Media, Fiction and What it Means to Be Human

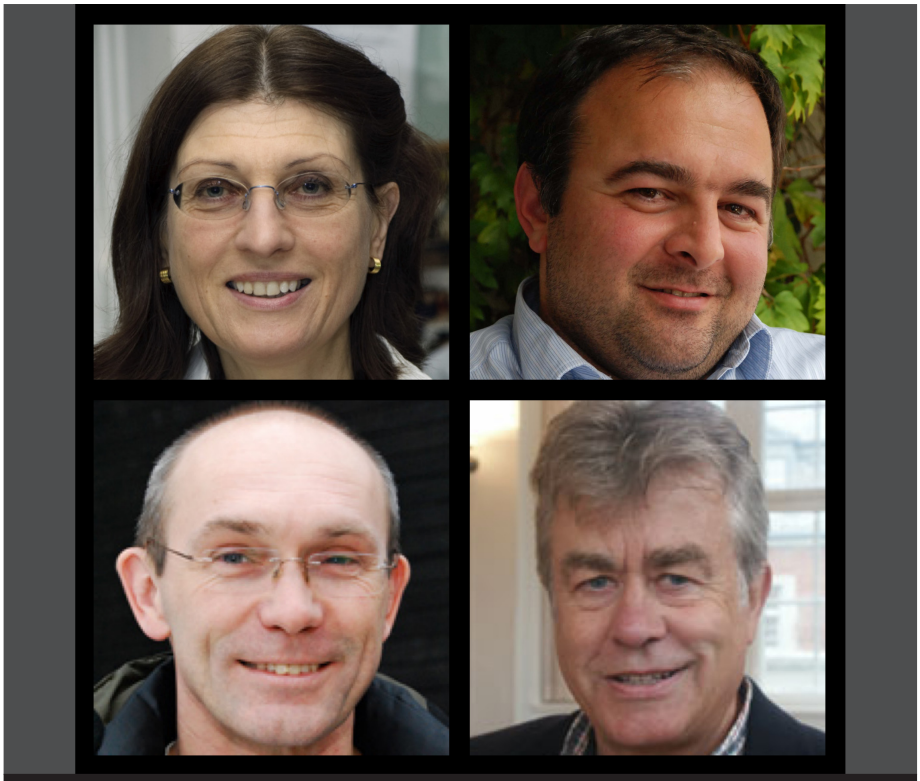
Few cross-disciplinary collaborations start with a clean slate. This one does. In an effort to understand how experimental medical research is reproduced in society - through culture, media, politics and business - four key initiators will investigate how the advancement of stem cell research has changed public opinions, raised perhaps unfounded hopes and challenged how we fundamentally look at the integrity of human life. The great expectations attached to stem cell research has also prompted large medical companies to venture into gray ethical areas profiting on desperation among patients in search of a cure that does not yet exist. Here we come full circle, as stories like this are likely to reflect negatively back on the research performed by scientists in laboratories across the globe. The aim of the pilot project is to shed light on the interplay between the scientific, societal, economical and political factors that shape our view of the constantly evolving sciences of biomedicine and biotechnology.

**The seed for this** collaboration was sown in open discussions between Professor of neuroscience Deniz Kirik and ethnology Professor Susanne Lundin. Deniz Kirik expressed a concern relating to the constant flow of letters, emails and phone calls from patients that are looking to benefit from a new therapy they may have heard about, therapies that are more often than not a long way from reaching the clinic. What is the responsibility of the scientist here? How does one reply to overly hopeful, often desperate, patients? The talks soon gave rise to bigger questions on how medical progress is communicated and reproduced in society and culture. What are the cultural imaginations about scientific progress and how is this reflected in the commercialization of medicine? Undoubtedly there are more questions asked than answers being given at this early stage. But that is kind of the point. This is a research avenue still in its infancy.

### The advent of Stem Cell Tourism

The pilot project kicks off in January 2013 - lead by Susanne Lundin, Deniz Kirik, Max Liljefors, associate Professor in art history and visual studies and Håkan Hydén, Professor in sociology of law. Susanne Lundin, a fervent advocate of research that bridges scientific borders, believes that to understand how medical science and society interacts there is not only a need for a broad inter-disciplinary approach. In essence – it is a must.

**- In order to understand** what shapes public opinion of medical science, stem cell research in our case, we have to take into account chain reactions that travel across scientific disciplines. First off, we have the basic scientists that handle the cells. Already here we see an ethical argument surfacing, namely the use of cells from aborted fetuses. Then we look at how science is communicated through media and fiction, sometimes oversimplified, and how this relates to the strong hope and want within



**The Bigger Picture.** Susanne Lundin, Deniz Kirik, Max Liljefors & Håkan Hydén will attempt to understand how scientific advnces is reproduced in society.

patient groups to find a cure at any price. From that place of hope and desperation we can today identify a growing market for stem cell tourism for example. In these “gray areas” lawmakers often play catch up and when they are unable to keep up medical research as a whole gets a bad reputation.

**Stem cell tourism** is still a fairly recent phenomenon but there is no mistaking the steady growth of this dubious industry. Many medical companies that are eager to perform early clinical tests that may not stand up the ethical guidelines set up shop in countries where they can get around judicial restrictions. For example in Germany, Singapore and China. Unfortunately, there is no shortage of people who are sick and all too willing to listen to empty promises offered by international clinics equipped with a well-oiled PR machinery. Typically, the clinical trials are advertised by video testimonials from previous patients. Rarely are they backed up by long-term statistics that hold up to basic scientific standards. The therapies offered are usually unproven while coming at a great cost for the patient, and at a healthy profit to the company itself.

**- We are talking** about big companies here that see an opportunity to do early clinical trials for Parkinson’s, Huntington’s and cancer for example. This is a big money business obviously and some of these companies will actively seek out loopholes to get ahead. Professor in neuroscience Olle Lindvall, for example, has expressed a deep concern about what these practices do to the general reputation of stem cell research. Clearly, it’s a vicious circle from the serious scientist’s point of view.

## Science vs. Tradition

The scientists behind this research initiative will also strive to understand the mechanisms by which scientific progress drive society to change its norms and values. And, in the longer term, how advances in technology and medicine help re-write the law books, making previously controversial views widely held truths of today.

- **Research, in itself**, is normative. It contains, by default, a variety of moral implications that means we might have to create new laws in our society. In the example of in vitro fertilization, for example, it was prohibited and viewed as unnatural for a long period of time. But, with time, as scientists pushed the agenda, followed by a strong public opinion, the society’s general view started to sway in favor of this procedure. Suddenly, a few decades on, nothing in the law texts suggests that this is unnatural. Now, it is instead perceived as a natural procedure. This shows us how society is constantly being reshaped by the people within the community.

**It is the very nature** of science to challenge ethical and traditional values. New technologies will give birth to new needs creating new expectations. But it is not always a straight line towards more and more public acceptance of controversial biomedical therapies. Stem cell research clearly touches a nerve relating to the integrity of life. As we begin to create tissue “from scratch” for example, scientists are challenging longstanding perceptions of how we look upon ourselves and what life really is.

**One example of** where we, as Europeans, have taken “a step back” is the recent ban in the European Union on patents based on embryonic stem cell research. The ban has been fiercely debated, as many scientists and policy makers believe that this will shift the momentum towards American and Asian research. It is no secret that the ban is based rather on values linked to the integrity of human life than scientific data or medical risks. The example effectively displays the duality of the relationship between traditional values and science, a continuous tug-of-war where change is the only constant.

# Q & A

## With NEW Associate Member Danielle van Westen

Bagadilico's newest Associate Member, Danielle van Westen, is an expert in brain imaging technology. In her new position she takes yet another step towards a deeper focus on neurodegenerative disease. Her ambition is unmistakable as she talks about developing MR techniques to further diagnosis and treatment for PD.

***What was your relation to Bagadilico prior to your inclusion as Associate Member?***

- I was a collaborator in Christer Nilsson's WP3 project on white matter involvement in PD and Parkinsonian disease. MR enables in vivo visualisation of white matter tracts, the one method available. In a study on four WM tracts, the middle cerebellar peduncle, corticospinal tract, cingulum and corpus callosum, all these were affected in the parkinsonian syndrome PSP (Surova et al, MDS conference, Dublin 2012). At present, we are acquiring new MR data for measurement of a number of morphological and physiogical parameters.

***What do you hope to accomplish as an Associate Member of Bagadilico?***

- Development and evaluation of MR techniques aiming at identifying early markers for diagnosis, prognosis and treatment is the longtime goal. Also, identification of markers for differential diagnosis between parkinsonian syndromes is of interest. I would be interested in testing appropriate results from preclinical research in the clinic with imaging or develop and evaluate methods for such testing.

***Who are your closest collaborators within the Bagadilico framework?***

- My closest collaborators are on the clinical side neurologists Oskar Hansson and Christer Nilsson and on the MR side the MR physics group at Lund University and the hospital physicists at my department, the Center for Medical Imaging and Physiology at Skane University.

***From a more general perspective, what do you believe is the main point / main challenge with research environments such as Bagadilico?***

- Although quite unaware of the workflow and the possibilities of preclinical research, I would say translation of results and ideas from the preclinical environment to clinical outcome. Also, managing the resources and investing them in the most viable projects must be challenging.

***Could you briefly describe you research and professional background?***

I am an MD working as a neuroradiologist at the Center of Medical Imaging and Physiology at the Skane University Hospital. My thesis in 2006 was on advanced MRI-techniques in the preoperative workup of brain tumour patients; since then, neurodegenerative disease has more and more become a focus of my research.

***Where does Lund stand today in the field of bioimaging?***

On the clinical side, there is great machinery with state-of-the-art clinical MR scanners that are relatively accessible for research and a 7 T MR, a national assett, on its way in. Also, there is great support by the MR physics group and hospital physicists. However, there is a proportionally large need for core faculty in the fields of image analysis, mathematics, statistics etc. In order to become competetive, this gap must be filled in the coming years, which will require funding and management.

***How can we improve further?***

Manpower and skills, really. Also, even great machines will produce dull research if not probing great ideas; to ask the right questions at the right time is of course crucial.

***On a personal note, what did you do this summer?***

My family and I visited my country of origin, the Netherlands; then spent three weeks in California with the children's donor siblings and their moms; now looking forward to dipping our toes in the Mediterranean in a couple of weeks.