DANIELLA RYLANDER WINS TEGGER PRIZE

Bagadilico’s awardee Daniella Rylander to the right.

On November 17th, three young scientists from Malmö and Lund shared a combined prize of over one million for research into common diseases. Daniella Rylander will travel to Rome for a research collaboration. Why do you think that you were chosen as a recipient?
- I hope it was because of the quality of the proposed project and my competence. I know also that my previous prize - Elsa and Inge Andersson Award - was an advantage.

To what research end will the money go?
- The money will go to research about neuron transplantation for Parkinson's. I will study how neurons that are transplanted into the Parkinsonian brain make connections and influence the surrounding neurons. If successful, where will this research lead you?
- This project will be the first to evaluate subcellular changes that occur on specific neurons connected by different transplants. If I find abnormal changes I will try to prevent such changes with pharmacological substances.

Why Rome?
- Here is where a special research group has its laboratory. The group is specialized in the technique I will use and is part of a EU-sponsored collaboration in which I have been involved. Besides, Rome is a very nice city to live and eat in!

NEWS IN BRIEF

BAGADILICO COORDINATOR APPOINTED VICE-DEAN

Incoming dean of the Lund Medical Faculty, Gunilla Westergren-Thorsson, has appointed Bagadilico coordinator Cecilia Lundberg to vice-dean for the new faculty management. Starting January 1st, she will step into her new shoes, with a special responsibility for education at undergraduate and graduate levels, and internationalization.

Cecilia Lundberg is a professor of neurobiology at the Department of Experimental Medical Science. After a post-doc of 2.5 years at Harvard Medical School, she returned to Lund to start her own research group.

As President of the Swedish Society for Neuroscience, she is the Swedish representative in the Federation of European Neuroscience Societies (FENS). She sits in one of the Swedish Research Council’s panels, is vice president of a committee with the Norwegian Research Council and member of the board of the Strategic Research Multi Park.

PATRIK BRUNDIN INTRODUCED AT VAN ANDEL

On October 27th, leaders of the Van Andel Institute announced the appointment of Bagadilico Vice-Coordinator Patrik Brundin as chair of the Jay Van Andel Parkinson Research Lab.

The institute describes Patrik. Brundin as an internationally renowned expert in the field of Parkinson's disease.

- West Michigan is poised to become a national leader in Parkinson's research, and the appointment of Dr. Brundin will take us to the next level, David Van Andel, the chairman and CEO of the Institute, said in a news release.

Click here for a clip of the local news channel announcement

BAGADILICO'S YOUTUBE CHANNEL A SUCCESS

Close to one year after the launch of Bagadilico's YouTube Channel it is safe to say that the website is a platform with a clear purpose. Our videos have been viewed 3000 times since the channel came into existence. Soon we will be presenting plenty of new material, for example interviews profiling some of our senior scientists. The channel also gives us the opportunity to link to clips that are relevant to the research taking place within Bagadilico. If you’ve seen a clip that you would like to share with your fellow Bagadilicans, send an email to jens.persson@med.lu.se.

Click Here to see a new clip from the Bagadilico Webinar on PD

DOUBLE BAGADILICO HALF TIME

Rana Soylu and Olof Torper recently had their half time seminars.

Rana Soylu from Åsa Petersén’s research group defended on the subject; “Molecular and cellular mechanisms of hypothalamic dysfunction in Huntington's disease.”

Olof Torper from Malin Parmar’s research group defended on the subject; “Characterization and transplantation of neurons converted from human fibroblasts by forced expression of defined factors”
THE VALUE OF VIRAL VECTORS

New Lab Delivers Tailor-Made Aav-Vectors

A virus is defined by its ability to escape the human defense system, eventually delivering its genome into the cell it wants to infect. These unique navigating skills are of particular interest to scientists who want to transfer genetic material into cells for experimental purposes. The adeno-associated virus (AAV) is specifically suited as a vehicle for transportation of genes into brain cells. Bagadilico is now introducing a new facility, specifically designed for producing AAV-vectors. The lab will be fully operational in February, adding important capacity to the overall Bagadilico infrastructure.

The use of viral vectors can be described as hijacking the viruses’ natural capability to carry genes into a cell. Instead of allowing the virus to put in place the genes that help replicate the virus, the shell of the virus is used to transport ‘good genes’ that can have a therapeutic effect. In effect, the method is a highly sophisticated way of piggybacking on nature itself.

Creating viral vectors is a meticulous job that demands expert competence in molecular biology. New Bagadilico recruit Jenny Johansson is responsible for the making of AAV-vectors in the new lab. Operating as a one-woman vector factory she will be the important first link in many future research experiments within Bagadilico.

- What attracts me is the technical side of viral vector development. I have previously worked a lot with the cells that we use to produce the virus inside of. With this new job it’s very exciting to clone and develop other molecular techniques. It gives me the opportunity to become an expert, to specialise in a narrow field of research. Hopefully this will mean that I become really good at it, says Jenny Johansson.

Jenny has already started producing custom-made viral vectors for a number of research groups within Bagadilico. As she waits for the new lab to be set up she is using a neighbouring facility as a makeshift solution. Provisional working conditions haven’t stopped her from producing a steady supply of vectors during her first two months.

- So far it’s been going well, the vectors are looking good. Of course, one must always
test the vectors on animals to make sure that they are effective and can do the job, this will take a little time yet. But as far as we can measure them with our instruments they are what we want.

**The Vector of the Future**

AAV-vectors have become the gene delivery system of choice in many gene therapy procedures. These vectors have a broad range of infectivity, including both dividing and nondividing cells, and appear to be nonpathogenic. Wild-type AAV demonstrates a natural tendency for site-specific integration in the host cell, an important feature for most applications in gene therapy. The development of effective AAV vectors over the past years have presented scientists with an efficient DNA carrier system.

Johan Jakobsson, who is running the lab, has a lot of expertise in this area and will act as a sounding board for the Bagadilico scientists who aim to use the new lab in the coming years.

- What we can offer with this method is genetic modification of specific populations of cells in the brain, giving you the option of choosing which cells to modify. This flexibility means that you can quite easily make a variety of genetic modifications. For example, if you compare to transgenic mice, which is a very time consuming process, this technique is much faster.

The demand for AAV-vectors is increasing on a global scale and the new facility is an indication that Bagadilico aims to keep up with the latest advancements in neuroscience. The message from Johan Jakobsson is quite clear, he wants everybody to get a slice of the pie.

- We predict that this technique will be widely used in neuroscience in Lund over the next few years. The technology as such is already established in Lund, but now it’s important that we that can meet the demands of the future. We want to spread the technology to even more users, so that the labs that specialize in other technologies also can take advantage of this to help them broaden their research.
How do you explain your motivation for being such an engaged advocate for Parkinson’s disease?

- To me it’s a natural progression. Once I was diagnosed with Parkinson’s disease, there seemed to be two choices - I could either be defeated by this illness or defined by it. I am not a passive person so defeat was never an option for me. I knew enough about Parkinson’s already to know the consequences of it on my body and mind. So for me, it was a case of using what abilities I had to try and influence and improve the future for people with Parkinson’s.

- In some respects it was a natural progression from my previous work in research.

You were researching Parkinson’s disease when you were diagnosed with it yourself. How did this change your view on the disease?

- It changed my view quite substantially. As a researcher, I knew all about the symptoms, treatment and natural history of the condition. For many years I had even taught the subject to medical students. But it is one thing discussing Parkinson’s disease in the abstract, and quite another experiencing the same symptoms oneself. It has made me aware of the gulf of knowledge and understanding that can exist between physicians/scientists and patients, a gulf that it is essential to bridge.

Was it a positive or a negative to have this prior knowledge upon diagnosis?

- Both, to be honest. I believe that knowledge is empowerment and in that respect having a greater in-depth knowledge of Parkinson’s than the majority of patients is helpful for my own personal healthcare. That same knowledge also emphasises the
need for urgency in Parkinson’s research.

- I am also fascinated by the symptoms of Parkinson’s. Whereas most patients might experience tremor and think nothing more of it, I am fascinated by its rhythm and frequency. On the one hand, it makes me think that I’m going to spill my tea, whilst on the other hand I am thinking of thalamocortical rhythms and neuronal firing patterns. It’s hard to stop being a scientist!

Why did you launch the Parkinson’s movement?

- Within the Parkinson’s community, there was nothing quite like the Parkinson’s Movement. There are many websites, organisations and research groups that, between them, address most aspects of Parkinson’s. But the significant absence is the voice of patients.

- Parkinson’s Movement was predicated on the view that the most important resource in Parkinson’s is the patients themselves. It was time for that patient voice to be heard.

- Nobody knows better than the patients themselves what it is like to experience Parkinson’s and what our aspirations are for the future. What should be the priorities in health care and research? And, more to the point, who should set these priorities? The answer, and the reason for the distance of Parkinson’s Movement is that patients must engage in partnership with physicians and scientists. The setting of health care and research agendas has to come from that partnership. And the Parkinson’s Movement aims to do that.

Where do you see the Parkinson’s Movement in ten years?

- I would like to see the Parkinson’s Movement in a full, equal and responsible partnership with healthcare providers and researchers to ensure that the voice of the ultimate stakeholders - the patients themselves - is heard loud and clear and that the Parkinson’s research and health care community never loses track of the ultimate objective of finding a cure for Parkinson’s.