A university of international standing

OUR VISION IS SET OUT in the strategy map that we are now following. It states that we should be a university of international standing – where people and ideas converge and develop. One thing we mean here is that our education programmes and research should be of sufficient quality that they hold their own very well in competition with other universities worldwide.

Linköping University (LiU) has a leading position as regards students who would recommend this university. I-Graduate is the British company behind the international student barometer (ISB), the biggest student survey in the world. In the latest survey, over 90% would recommend LiU; this makes us second in Sweden, sixth in Europe and twelfth in a global comparison of the almost 200 universities that take part in the survey.

THE FOUR SOON-TO-BE business graduates from LiU who recently won the biggest case competition in the world for business students are, by the way, a wonderful example of the international standing of our students. The final took place recently in Dubai, where 28 teams from all around the world competed for victory in the KPMG International Case Competition.

Being a university of international standing also means having eminent researchers and excellent research. A good capacity for attracting external funding is one way we have been able to build healthy research environments, several of which are interdisciplinary and innovative.

LiU researchers have won prestigious awards for their accomplishments, including the Nordic Medical Prize, the Marcus Wallenberg Prize and the Göran Gustafsson Prize.

ONE OF THOSE who has been recruited to continue his highly successful international career at Linköping University is Polish–born psychiatry researcher Markus Heilig, who is returning to Sweden after eleven years in the United States. He will build up and lead a new neuroscience centre, where preclinical and clinical researchers will work closely with doctors and patients in a healthcare environment. Together they will contribute to finding solutions to a serious social problem. The investment of nearly SEK 200 million [ca. EUR 21 million] will come from the Swedish Research Council, Linköping University and Region Östergötland.

Professor Heilig is a highly distinguished and oft-cited addiction researcher, and I look forward to following the progress of the research environment he is creating, where the aim is to learn more about addiction and where new students and young researchers will be schooled into the field, and further contribute to our standing.

HELEN DANNETUN, VICE-CHANCELLOR
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Seeing with new eyes

JAPANESE AVOID saying no, the French show their interest by constantly interrupting, and Indians eat with their right hand. Yes, stereotypes, but quite often true.

Being aware of cultural customs helps us find our way in the world. We better understand what takes place around us, and we’re able to avoid some embarrassing blunders.

Swedes also have qualities and habits that visitors should be familiar with. For instance we are often perceived as shy and rather reserved, but friendly and reliable once you get to know us. At work the relationship between staff and superior is relatively informal, and the same applies to students and teachers at university. Visitors soon realise that the Swedish fika – a break for a coffee or tea and a snack – has an important social role, both at home and in the workplace.

A PHOTO ESSAY presents some good tips for survival in Sweden. We also met students from different parts of the world, asking them to compare student life in Sweden and their home country. Initially they found some things strange, but with time they discovered the advantages.

The vast majority of international students at Linköping University are very satisfied with their studies. The latest report from the International Student Barometer states that over 90 per cent of international students would encourage others to study at LiU – a result that puts us among the top performers worldwide.

Many students also appreciate Linköping University’s eco-friendly attitude. Here we rank third in the world. The university’s environmental focus leaves its mark on the study programmes as well as the campus life. Recycling is widespread and bicycles are the preferred mode of transport.

The environment also features in our research. Santiago Mejia Durand from Colombia has studied the environmental situation in megacities like Mexico City and Cairo. We spoke to him prior to his return home.

WE ALSO PRESENT a leading researcher who is leaving the United States to set up a new centre for addiction research at Linköping University. And don’t miss the article on the LiU student with roots in Rwanda, who combines studies in industrial management and engineering with elite-level kickboxing. He was recently named one of Sweden’s Students of the Year.

Pleasant reading!

LENKART FALKLÖF, EDITOR-IN-CHIEF
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Sarah Collis from Australia first doubted that she could learn anything with the different methodology. But she changed her opinion.

Linköping University scores high in global surveys when international students are asked how satisfied they are with their university experience. Read about what four exchange students have to say about what it’s like to study at LiU and how their studies differ from back home.
“LiU empowers the student”

NAME: Adeyemi Adeokun
AGE: 29
COUNTRY: Nigeria
CITY: Ibadan, Oyo State
STUDIES: Intelligent Transport Systems and Logistics

Adeyemi Adeokun from Nigeria studies Intelligent Transport Systems and Logistics. He thinks the examination system at LiU is too generous and forgiving.

“Sweden and Nigeria has very different views on failing. When you write an exam in Nigeria and fail you have to wait another year to write it again. In Sweden you can rewrite the exam up to seven times. I think this could result in some of the Swedish students not trying their best.”

With the exception of the above, Adeyemi has only good things to say about studying at LiU. He appreciates how the university has chosen to empower the students.

“Back home in Nigeria, if you don’t do as a teacher says they have the power to fail you. And there is nothing you can do about it. There are many awful examples of students who have been oppressed by their lecturers.”

“In Sweden, during written exams, the students are anonymous so the lecturer can’t tell who’s who. Also, at the end of every course the students give written feedback to the university regarding the course and the lecturers. And the university takes time to listen.”

“I believe continuously taking feedback is a great way to improve the education. It also empowers the students and gives them an opportunity to be heard. This is something I would love to bring back to Nigeria. My time in Sweden has become something more than an education. Living and studying here has given me a whole new perspective on life.”

“The curiosity never ends”

NAME: Zahid Aslam
AGE: 26
COUNTRY: India
CITY: Bangalore
STUDIES: Wireless Networks and Electronics

Zahid Aslam from India studies Wireless Networks and Electronics. He became interested in LiU during his studies in Saudi Arabia.

“I am from India but I grew up in Saudi Arabia. I came across an interesting chart that showed countries based on factors like education levels, equality and freedom of speech. In the chart, Saudi Arabia was categorised as one extreme with a more conservative way of doing things. India placed exactly in the middle and Sweden was surprisingly on the other extreme. This made me curious about the country. When I understood a lot of the biggest companies in my field originated in Sweden and LiU I really wanted to study there.”

Zahid is astonished by how the project-based courses at LiU enable the students to exceed their goals and expectations.

“When we do a lab exercise or project in India we set fixed goals beforehand. This leads to the students only aiming for reachable goals and never delivering more than the expected, not pushing any boundaries. In Sweden a project can be truly time-consuming. You are free to go as deep as you want. In some way it feels like there is a never-ending support from the university, for as long as there is a need and you can justify it. At LiU the curiosity never ends.”
Sarah Collis from Australia studies Childhood Education. On her first day at LiU she was worried she wouldn’t learn anything.

“After the course in teaching practice was due to start I thought: Where’s my textbook? Normally I would have prepared with notebooks, readings and textbooks, so I checked the course schedule and there wasn’t any textbook required. I was really worried because I wondered what are we going to learn in class!”

Sarah was surprised about how differently the course was implemented and her opinion about the methodology changed.

“At first it felt a lot easier than it actually was. In Australia we read a lot on our own and then usually sit and listen to the teacher in a very traditional manner.”

“But after studying at LiU for a while it hit me. Together, we as students can share and develop our philosophies and practices and really get to know the why behind the how. So even though I am doing less reading and work by myself I feel like I am owning my education now. Even on a bike ride home or during a break we bring up our university courses since it feels so natural to talk about them.”

NAME: Santiago Sanchez
AGE: 26
COUNTRY: Ecuador
CITY: Cuenca
STUDIES: Biomedical Engineering

Santiago Sanchez from Ecuador studies Biomedical Engineering, he likes the informal relation to the lecturers.

“The relation with the teachers here is more friendly and you call them by their first name. In Ecuador you need to use title and surname, which contributes to a more formal relation. In Sweden, when you have any questions you can just email the professor. I was really surprised to receive an answer just an hour later. In Ecuador it would take at least a few days, when the questions no longer are relevant.”

When it comes to social life, LiU scores high in international surveys. Santiago is impressed with all the possibilities students have when it comes to social activities.

“The social life is amazing. Every single day there is something fun to do. You can easily get involved in social activities where you get the chance to meet people from all over the world and learn from different cultures. I highly recommend people to study at LiU. The culture, the food and the educational system are very good. But new students have to be prepared to study hard and be ready for the cold winters.”
90 per cent of the international students would recommend LiU as a university, according to the online benchmark survey International Student Barometer (ISB) 2014.

Since the ISB began five years ago, Linköping University has steadily increased in the recommendations category. This year’s results give LiU a position as second in Sweden, sixth in Europe and twelfth in the world.

Social life is one of the top ten factors when students decide where to study. LiU’s social activities score highly in ISB 2014. When new international students arrive, their first weeks are full of activities to help them get a good start and make new friends. There are a lot of activities to choose from, for example campus tours and city tours to get to know Linköping and Norrköping. The students can learn the Swedish dance called “bugg” and are invited to the biggest student event in Sweden – Kalas – where all new LiU students are welcomed to a big fair with performances by renowned Swedish musicians.

LINKÖPING UNIVERSITY is also notably ahead on satisfaction as regards the campus and its surroundings. In ISB 2014, LiU added a question about favourite places in the county of Östergötland and many students answered that the university is their favourite place.

In previous years LiU got the highest score in eco-friendly attitude among universities worldwide. This time LiU is in third place, which shows that the international students still appreciate the focus on environmental issues in both research and education. The university also puts a lot of effort into reducing its own environmental impact.

IN THE AUTUMN of 2013 the situation for student housing was acute, which brought down scores as regards arrival in ISB 2013. So for the next academic year LiU focussed on solving this problem, providing 100 extra beds for international students. Also, locals were encouraged to let a room to a student, which resulted in more rooms available for rent. This led to better the scores for arrival in ISB 2014.

In total there were responses from 164,863 international students from 209 institutions in 18 countries. Six universities were Swedish. At Linköping University 684 of the international students (51%) took part in the study.
Survival in Sweden
If you want to survive in Sweden, you should at least be familiar with some of the weird and wonderful customs of the Swedes. Tag along with LiU alumni Sara and Gunnar and their two children - a typical Swedish family living in the outskirts of Linköping.

CHECKLIST

1. “Fika” – Swedes can’t imagine life without it.

2. Most men take several months’ paid parental leave.

3. Cosy Friday is non-negotiable.

4. Drinking tap water? No problem!

5. Wearing shoes indoors - a big no no!
Astronauts to space via Norrköping

Recently, twelve real-life international space travellers visited the Visualization Centre’s dome theatre in Norrköping, with Swedish astronaut Christer Fuglesang at the controls.

Without rockets, risk or space suits, they travelled further than any human has gone before.

“Wow, that’s the most amazing thing I’ve seen since we came to Sweden.” “I’m deeply impressed, it was absolutely magnificent.”

Praise was raining down on the Visualization Centre’s show, which has it origins in research and graduation projects at Linköping University.

And it was no ordinary film the Visualization Centre was showing; it was a live show built from a large amount of data. Data from satellites, sensors and vessels in space, observations from the earth, and theories about the properties, origins and development of the universe. And the data, processed into images that move around the spectator in the dome, is often only one week old.

“In principle here you can experience the whole journey from the streets of Norrköping to the estimated birth of the universe, the Big Bang,” explained Thérèsa Eklöf, CEO of Visualization Centre.

The group of astronauts and cosmonauts visiting Norrköping in addition to Christer Fuglesang (SWE) were: Soichi Noguchi (JAP), Alexandr Alexandrov (RUS), Oleg Kotov (RUS), John-David Bartoe (USA), Karol “Bo” Bobko (USA), Bonnie Dunbar (USA), Dorin Prunariu (ROM), Reinhold Ewald (GER), Sheikh Muszaphar (MAL), Andy Turnage (USA) and Natalya Kuleshova (RUS).

Students from 75 countries admitted

Over 600 people from 75 different countries have been admitted to the autumn term’s offering of international master’s programmes at LiU. Many programmes are still open for applications, so more potential students may apply. Also, LiU has reduced its fees for students from outside Europe by 25% which may produce increased interest.

International breezes at LiU

“Loads of people, fun and food. LiU’s international students went all out when they presented their countries, regions and cultures at International Day.

“The baking took a day or so. My mum might have a few things to say about the results, but still. Please, try some!” says Erasmus student Mirheta Omerovic from Bosnia-Herzegovina as she holds out a plate of her favourite biscuits, baked in a special cake mould. All in all there are eleven different types, including one with salami.

“But it took even longer for me to decide how to present my country. I love it and want to show everything. Most people ask about the biscuits, but I take the opportunity to get them interested in my country,” says a smiling Mirheta Omerovic.

In the middle of the crowd is Zahid Aslam, chairman of ISA, the International Students Association in Linköping and iDay organiser. He looks happy: this year 27 countries or regions are represented, a few more than last year. This is the 10th anniversary of iDay at Linköping University.

“This is a perfect event for LiU’s master’s students, it is really their day, where they can showcase their cultures. And it is great to see the effort they’ve made. They’ve got in touch with embassies and tourist offices to get materials. Bought ingredients, cooked and baked, asked for stuff from home ... Working on iDay builds cohesion between the international students.”

Sweden is also part of the world. Linköping University’s International Office went with a Midsummer theme: a miniature maypole, the smell of tar, shot glasses (empty) and strawberry cakes (real).

After the fair in the Colosseum the festival moved to Kårallen’s dining room, where the international students gave a number of performances.
LiU business students best in the world

Four business students from Linköping University grabbed first place in the world’s largest international case competition.

They won top honours at the international final in Dubai, 13-16 April, where 28 teams from around the world fought it out in the KPMG International Case Competition.

The victorious LiU team was made up of Linnea Andersson Hansen, Hanna Nyman, Jens Ternerot and Patrik Edlund, all currently studying for their Master of Science in Business and Economics. This is the first time a Swedish team has won the competition. “Lots of fun and very inspiring for all of our students,” said Henry Nehler, programme coordinator.

In a case competition, the participants are presented with a company’s situation. In a very limited time frame they have to develop a proposal of benefit to the company. A total of 21,000 students from 550 universities took part in this year’s KPMG International Case Competition.

Mathematics collaboration with Uganda

The Department of Mathematics is entering into a new collaboration programme with Makerere University in Uganda funded by the Swedish International Development Cooperation Agency.

“The idea is that we will support Makerere in the creation of research environments for mathematics and with the design of a new research education programme,” says Senior Lecturer Bengt-Ove Turesson.

Since 2011 he has been the overall senior coordinator of a similar Sida programme in Rwanda, where teachers from LiU regularly take part in courses and as supervisors for master’s students at the National University. As part of the programme, LiU also accepts PhD students from Rwanda, who thus defend their theses here.

Beyond that, the Department of Mathematics currently has seven PhD students financed by the International Science Programme at Uppsala University. “They are from Ethiopia, Rwanda, Tanzania, Uganda and Zambia,” says Dr Turesson.

A new master’s programme in Ethnic and Migration Studies will be launched the autumn semester of 2016.

It is a two-year, full-time programme that will educate international students in Ethnic and Migration Studies, with special reference to globalisation and borders, social and cultural change, and relations of power and resistance. Courses integrate the humanities and social sciences, with historical and sociological, economic and cultural perspectives, foregrounding issues related to citizenship, labour, health, gender, asylum policy and identity formation.

The programme is run by REMESO – The Institute for Research on Migration, Ethnicity and Society – Linköping University, Campus Norrköping.
Mihai Aldén is the main attraction, and closing speaker at the Media Technology Days on Campus Norrköping, where he graduated with an MSc in 2011. After his graduation project at DreamWorks Animations, he became one of the developers of the company’s tool for advanced effects in animated films.

The tool, or framework, is called OpenVDB and is open and free. “It has been used one way or another in every major animated film production over the last few years, including those of DreamWorks’ competitor Disney,” Aldén explains.

“One of their artists contacted me informally about how our tool could be used to break ice in the film Frozen.”

The film team’s artists/illustrators first build up scenes with figures and images. Then, in OpenVDB, credible movements are created for water, cloud, fire, smoke, explosions and such.

“OpenVDB can store and manipulate huge volumes of data, and we have a large collection of tools for different kinds of effects. The framework makes it possible to work with the very high resolution 3D volumes needed for today’s effect-filled films.”

An animated feature film takes approximately five years to produce, two of which
are devoted to special effects.
“It’s important for the tools to be fast, since the artists need to create many different versions of each effect so as to find the right style.”

THE LANDSCAPE OF Campus Norrköping is dominated by the real-life Motala River.

How long would it take to animate the waterfall?
“We could simulate it in a few hours, but in animated films an artist will work for several months on an effect. They generate a lot of different versions of the same effect so as to find a style that matches the film well.”

How does it feel to come back to LiU?
“It’s nice to meet the current students and other alumni and see how much media technology education has grown since I graduated.”

In the Kåkenhus Building there is a reverent hush during the talk, interrupted by sudden outbursts when Aldén shows his effects: disasters, deluges and terrible monsters that loom up.

“Media Technology in Norrköping has a really good reputation in the film special effects industry,” Aldén says.

“There are Media Technology alumni working in all the big special effects houses all over the world, including London, Vancouver, Los Angeles and Wellington in New Zealand, where The Lord of the Rings was made.”

MR ALDÉN CHOSE his own path in his studies.
“I got more and more interested in simulation and visualisation during the last years of the programme. It became a hobby that took up a lot of time, and I guess I neglected a lot of other courses and a lot of social life ...”

“My advice is to choose courses that are arranged as projects, not normal courses with a fixed plan. You learn more by working independently and looking for the answers to a bigger problem.”

Mr Aldén sought a graduation project through Ken Museth, a former professor at LiU who had started working at DreamWorks.

“The truth is I missed most of the course and focussed on one thing – the technology that is now a part of OpenVDB,” he says with a somewhat wry smile.

The award of a technical Oscar, or a Technical Achievement Award, from the Academy of Motion Picture Arts and Sciences begins by companies submitting suggestions that are examined rigorously by experts in film special effects.

“We were interviewed in the autumn and then we didn’t hear anything. I’d almost forgotten about the whole thing until the beginning of January when I found a letter in the post with the Oscar logo. It felt unreal and it took a few days before it sank in that it was true and I dared to tell anyone.”

Naturally, Mr Aldén really appreciates the recognition, but ...

“The greatest reward is that the framework has become so widespread and that many companies find it useful. It’s fantastic to have other people using our tool.”

* Mihai Aldén was awarded a technical Oscar for OpenVDB in 2015 together with former LiU professor Ken Museth and Peter Cucka. At the same time Magnus Wrenninge, also a former media technology student at LiU, was awarded a similar prize for Field3D, a library of computer graphics for animated films.

Every major animated film has special effects using OpenVDB: DreamWorks’ The Croods and How to Train Your Dragon 2, and also The Hobbit and the Marvel films, plus all the films that were nominated in 2015 for best visual effects: Interstellar, Captain America: The Return of the First Avenger, Dawn of the Planet of the Apes, X-Men: Days of Future Past, and Guardians of the Galaxy.
For several years, Santiago Mejia Dugand has studied the environmental situation in some of the world’s megacities, such as Mexico City and Cairo. Now he’s taking his green ideas home to Colombia.
This summer Santiago Meija Durand will go home. After seven years in Linköping, armed with a PhD in Environmental Technology and Management, he will return to his hometown of Medellín in north-west Colombia.

He will leave well-organised, waste-sorting Linköping with its 150,000 inhabitants for the hustle and bustle one of the world’s multi-million cities, one which seems clean on the surface but where rubbish fills up more and more ravines in the surrounding mountains. But Medellín is also a city making major strides in terms of the environment.

“Perhaps it’s naive but I want to contribute to this positive development,” Mr Dugand says.

MEDELLÍN, THE SECOND largest city in Colombia, is making rapid progress; crime rates are falling, tourists dare to return, the city is seen as innovative, there is money for major infrastructure improvements and treatment plants are being built to purify both river water and wastewater from industry and residential housing. Cableways traverse the mountains and the tram network is being expanded.

The situation should also be good for the export of Swedish environmental technology and expertise in sustainable urban development. But after having studied the environmental situation for the last five years in megacities such as Mexico City and Cairo, Mr Dugand has drawn some important conclusions:

“Solutions have to be tailored to the local conditions. In pictures we see from Hammarby Sjöstad or Malmö there are no people or cars to be seen. For a South American this doesn’t carry a lot of credibility,” he explains.

In 2008 he came to Linköping University as a master’s student from EAFIT University, one of the larger universities in Medellín. He quickly became interested in the Östergötland environmental technology initiatives.

“There are major environmental problems in the megacities of the world, and there is technology that can solve these problems. I wanted to know why this technology wasn’t being used, despite the fact that the need is so clear,” he says.

ONE SWEDISH COMPANY that – according to Mr Dugand – chose a viable route is Envac, who have sold environmental solutions to Barcelona and have also established themselves in São Paulo in Brazil.

“The Swedish greentech companies have to act like the mountain farmers who want to sell their goods; they have to come down from the mountains and show themselves where there is a market. The leaders in cities like Mexico City or Medellín are not likely to go looking for solutions in small towns like Malmö and Linköping, where circumstances are entirely different.”

For historical reasons, Medellín is significantly closer to Barcelona than to Stockholm.

“We speak the same language, have similar regulatory frameworks and share a common cultural heritage.

In Medellín there is also an equivalent to Tekniska Verken in Linköping: Empresas Públicas de Medellín (EPM), a large company owned by the state but run like a private company. EPM is responsible for electricity supply, water and wastewater – in Medellín as well as many other places in Latin America. The company is doing well and bringing a lot of revenue to Medellín – money that makes it possible to develop water treatment and infrastructure.

One of the biggest environmental problems, however, is the growing volumes of rubbish outside the city. Until now mountain ravines have been filled with the rubbish, but the city has grown around and over the original tips. A massive ravine not far from the city is now filling up at a terrifying rate.

“It’s not difficult to show that an open landfill is more dangerous than burning the waste in controlled conditions, but the problem in a city like Medellín is that no one needs the heat. Of course you can generate electricity from the heat, but that’s expensive, and Colombia has plenty of hydroelectric power,” Mr Dugand explains.

LINKÖPING IS TOO SMALL and the step towards getting people in South America to sort their rubbish is too great.

But now he is itching to get home, equipped with all his new-found knowledge, and he hopes to get a job with the city or the regional authorities. Ideally in combination with a research position, something that his colleagues at Environmental Technology and Management would also like to see. Medellín boasts several well-known universities; in addition to EAFIT, for example, the National University of Colombia has a campus in the city, and the region also has its own university – the University of Antioquia.
Mental illness and addiction are growing problems the world over. Is there a way to halt this trend? Linköping University is doing its part with a major new initiative.

Few alcoholics succeed in stopping, despite long and thorough treatment programmes. Professor Heilig is looking for new substances that can stop the craving for alcohol.
After eleven successful years as a researcher in the United States, Markus Heilig is returning to Sweden. With major funding from the Swedish Research Council, Linköping University and Region Östergötland he is building a centre for neuroscientific research.

There has been a lot of running around, but all the pieces are now in place, with one exception: a good home for his family. “Maybe someone has a tent they could lend us,” he asks when some future colleagues say hello.

They have just been listening to his lecture on alcohol dependency and individualised treatment, the keynote lecture at the annual research symposium held by the postgraduate section of the student union Domfil. For Professor Heilig, it is a part of a week long stint as visiting professor; there is still a while to go before his move from NIH, the National Institutes of Health, located outside Washington DC.

“I will miss the city and my work in a great many ways. DC is a fantastic metropolis and NIH is a place unlike anywhere else on earth, where you can do absolutely anything. But I have been there over a decade; I’ve learned a great deal and now it’s time to move on. The challenge is to boost psychiatry and dependency research and increase the attractiveness of psychiatry.”

In his role as Dean of the Faculty of Health Sciences, Johan D. Söderholm played a key part in pulling off this prestigious recruitment:

“Psychiatric ailments and addiction are major social problems. Despite the great need for research this has been a neglected area.”

Linköping University will now have a leading centre for psychiatric and affective disorders, with Markus Heilig at the helm. He is coming to an environment where there are already strong research teams, for example in neurobiology.

“The unique thing about Professor Heilig’s research is that he combines advanced molecular research with clinical work on patients. So, in conjunction with Region Östergötland, we can build a strong treatment unit,” Professor Söderholm says.

**PROFESSOR HEILIG** began his research career in experimental psychiatry, and since being hand-picked to join the NIH alcohol research institute, his work has mainly centred around the most common and most deadly drug in the world. It doesn’t take much for people who have a strong genetic load to get hooked. Others can drink a lot before dependency sets in, but by then the brain functions have been changed fundamentally and for the long term.

Few alcoholics succeed in stopping, despite long and thorough treatment programmes. Existing medicines are ineffective and have many side effects. Through studies of the brain’s signal paths for stress and negative feelings, Professor Heilig is looking for new substances that can stop the craving for alcohol. But not all patients respond in the same way. The treatment needs to be individualised, he stresses.

“The same treatment for all is a bad thing in any type of care, but particularly with behavioural disorders. Genetically we’re very different – how does this fact affect how we respond to treatment? We test this on rats and mice,” he says.

The new centre will be equipped with the latest technology for this sort of research, powerful tools than make it possible to quickly and precisely cut and paste gene sequences.

**THE RESEARCH OF** Prof Heilig has centred around alcohol dependency since the beginning of the last decade, but now he is looking forward to working more closely with other specialists in psychiatry and neuroscience.

“When I began looking around in the faculties and the university I discovered that there were a lot of people with outstanding expertise in areas that are probably extremely important for those of us who are interested in psychiatric diseases.

- Physical contact – how does it affect emotional states and social connections?

- Neuroeconomics – how does the brain handle risky decisions?

- Pain and inflammation.

- Drug addiction, negative feelings and stress.

“Now we have decided to group together to create a centre. Everyone will carry on with their own lines of research, but this also creates opportunities for unique collaborations. We know different things, and we cover a broad spectrum. Together we already have a critical mass and lot of talented young people who want to join our work as PhD students and postdocs,” Professor Heilig says.

MARKUS HEILIG was born 55 years ago in the Polish city of Łódź. His academic career began at Lund University, where he became a medical doctor in 1986 and gained his PhD in experimental psychiatry in 1989. Next stop was Southern California, where he spent ten years as postdoc at the Scripps Research Institute in La Jolla. Back in Sweden he worked at Karolinska Institutet until 2004, when he was recruited as clinical research director at the American National Institute on Alcohol Abuse and Alcoholism (NIAAA), part of the National Institutes of Health – the US government’s massive research agency.

Professor Heilig is lead author of over 200 scientific articles in highly ranked journals, which has led to over 6,000 citations.
Education that challenges borders

TEXT THERESÉ EKSTRAND AMAYA PHOTO PETER HOLGERSSON

Migration across the Mediterranean is at the top of the news. And it is one of the issues that is discussed during an intensive week at the REMESO international graduate school.
students sit below the old roof beams in a classroom at Linköping University. From outside we hear the roar of the Motala River, a watercourse that has never seen a boat full of refugees. Unlike the Mediterranean – which we see on a map projected onto a large screen at the front of the room. The Mediterranean Sea, the Mediterranean countries and migration to and from the area is the subject of today’s lecture at the REMESO (Institute for Research on Migration, Ethnicity and Society) international graduate school.

“How are borders constructed and how do they work? When crossing a border, who is seen as a migrant and who is not?”

These questions are asked by visiting lecturer Martina Tazzioli from Queen Mary University in London, author of two books on migration in the Mediterranean countries. Today she is teaching PhD students from universities in India, the Czech Republic, Italy, Iran and Sweden.

THE REMESO GRADUATE SCHOOL in Migration, Ethnicity and Society has been educating PhD students in issues concerning international migration, ethnicity and society since 2008. A total of 250 students from 31 different countries have spent one week in Norrköping in conjunction with their studies at home.

“Interest in migration has increased among researchers in recent years,” says Peo Hansen, head of the graduate school.

“Beggars, EU migrants and the Mediterranean crisis have become visible elements of our daily lives. And they are in the news. This has spilt over into research and into students’ interests,” Mr Hansen believes.

“Migration has always existed, and the subject has always been important. We cannot be slaves to the latest trends, we have to get the critical research out there,” he says.

There are not many PhD student programmes devoted specifically to migration. Not in Sweden nor in the rest of Europe. This means that PhD students who have chosen to write their theses on subjects related to migration may be quite isolated at their universities.

Shai Tagner, who splits his time between universities in Italy and Israel, agrees. He is writing a thesis about asylum seekers and national identity, but his university offers no courses in these subjects.

“For me this week is not about submitting my course paper; I need knowledge. I studied history and I never took a course on migration,” he says.

Before coming to Norrköping, Mr Tagner prepared for two weeks – reading from what he describes as the “very comprehensive” book list. When he gets home he will have two weeks to hand in his course paper.

JUST THIS YEAR THOUSANDS OF PEOPLE have travelled across the Mediterranean from Syria, Libya and Tunisia to one of his homelands, Italy. Many have lost their lives en route. But there is a reverse migration too, across the Mediterranean from crisis-ridden Italy to Tunisia. These Europeans go to Tunisia with a tourist visa but often stay on illegally, as living costs are lower.

In both cases territorial boundaries are compromised, but the groups face completely different repercussions. Europeans caught in Tunisia are fined 80 euro per month, a sum they seldom have to pay. Refugees who cross the sea in the other direction face immediate deportation or detention.

“Here we can see totally different border mechanisms depending on which direction you come from,” Dr Tazzioli says.

For Emily Diab, PhD student in international law at Uppsala University, the problematisation of borders and issues around migration are not as new as for Shai Tagner. In addition to studying the subjects, she has worked for the Swedish Migration Board. Besides getting an overall view of migration research, she sees the graduate school as a chance to meet PhD students from different disciplines.

“A lawyer like me will often have a fairly dogmatic legal outlook. If you want to be active in the field of migration, you need to work with people from many different fields, and I can meet these people here,” she says.

ABOVE Refugees are picked up in the Mediterranean Sea.

BELOW Shai Tagner is writing a thesis about asylum seekers and national identity.
The asphalt ended in Tiraque. Now a bumpy gravel road winds up the valley, up, up. The air gets chillier and thinner; soon we are at 3,500 metres above sea level. We keep going higher. But along the steep hills land is still cultivated. Potatoes, beans – Bolivian staple food. We have set out to learn how water and irrigation are managed in this semi-arid part of central Bolivia.

Grey houses, built of adobe, are squeezed together on the hillsides, where a mist now spreads, lending the valley a magic light. The houses have thatched roofs, but no windows.

“Look at these houses, they are really cold inside in this weather. They have no heating system, not even a fireplace,” says Vladimir Cossio, my guide on this trip.

He is a doctoral student at Tema Environmental Change at Linköping University, doing his fieldwork in this high valley, Valle alto, in Bolivia’s Cochabamba province. The Tiraque municipality consists of 150 communities, many of them located along the Pucara River. Vladimir Cossio will choose a couple of these communities for his research.

Here rain falls mainly between December and March. During the seven dry months the peasants are totally dependent on irrigation. Therefore, managing common water resources has a long and strong tradition in the Bolivian countryside. Strict rules define who has water rights, how they are divided, and how they can be inherited or transferred. Common decisions are taken in independent local water organisations. But these traditional rules, institutional settings and organisations are not known, or at least not considered, when national and international authorities want to control water management, says Vladimir Cossio.

“They may have good intentions, but without knowledge of, and respect for, traditional institutions they are doomed to fail.”

The most striking example is, of course, the “water war” in Cochabamba...
in 2000. The neoliberal government had decided to privatise the local water company. It reached the absurd situation where peasants and communities were even denied the right to take care of the water that passed through their lands. People took to the streets in protest. Heavy-handed police tactics could not stop the protests, and after several months of demonstrations – and one death – the government surrendered. The water company was returned to public ownership.

**NOW A NEW NATIONAL** policy has been introduced that will affect local water management. Bolivia is following an international trend to follow the practices of Integrated Water Resources Management. The idea is that a water resource should be managed by all its stakeholders along the watershed. Geographic boundaries, rather than political, should be decisive. The aim is to enhance cooperation and hence sustainable water management. Bolivia’s water policy also includes environmental goals. There is a focus on environmental conservation and a participatory approach.

Nice words, but Vladimir Cossio is sceptical. This new policy does not change the top-down characteristic of interventions:

“National and international experts have a tendency to underestimate small peasants’ knowledge, values, culture and traditions.”

In the Tiraque municipality this became evident in the eighties when a group of international development organisations, financed by the United States and Germany, introduced a “modern technical” solution to the water management problematic. They built several dams and irrigation infrastructure, which diverted the water that peasants in the neighbouring valley depended on. They did so without sufficient knowledge of the existing systems. A large-scale, technical solution to a problem that was not just technical, according to Vladimir.

But the peasants fought back, relying on their long tradition of cooperation and of defending their water rights. And through negotiations they managed to find a solution that satisfied everybody involved.

Now, the new challenge is Integrated Water Resources Management, where the Pucara watershed is one of six pilot areas in Bolivia. New organisations will be needed, or at least new forms of cooperation. This process will be the focus for Vladimir’s doctoral work. His goal, as he describes it, is to facilitate the changes, by helping politicians and public servants become more conscious of the peasants’ way of organising themselves, their traditions, knowledge and experiences.

**VLADIMIR COSSIO** started as a water engineer, but his interest has gradually shifted from technical to social management of water. He did his master’s thesis in the Netherlands and in 2005 he presented a paper on the World Water Week in Stockholm. The subject was multi-stakeholder participation – and he has stayed on this path. Now he is affiliated to Centro Agua, a research centre at San Simon University in Cochabamba, and his research is funded by SIDA, the Swedish International Development Association, among others.

He has just started his fieldwork, establishing the first contacts with rural leaders in the valley. Along our way he suddenly recognises a man. He stops the car by the roadside and jumps out.

“Don Felipe, buenos dias!”

Felipe Velazquez has a long experience as chairman of Federación de Regantes Indígenas de las Alturas (FRIA), the federation of irrigators in the high valley. The two men engage in a chat about future needs and challenges. Down the slope a group of people, with bent backs, are harvesting potatoes. Slowly, they fill a big sack and carry it up to the roadside, where it will be picked up by a truck.

Back in the car Vladimir Cossio is content:

“This man has so much wisdom. I will learn a lot from him.”
Research

Thumbs up for LiU research

The government’s investment in strategic areas of research has been evaluated by an international panel of experts. LiU’s three initiatives all get the thumbs up, and it has been proposed that materials research receive increased funding.

Since 2010, Linköping University has been pursuing three strategic areas of research: materials science, IT and mobile communication, and security and emergency management. Between 2010 and 2014 LiU received SEK 253 million of nearly SEK 5.3 billion in total funding.

LiU received praise for taking advantage of the opportunity to strengthen already successful areas like materials sciences and ICT, and even building up a completely new interdisciplinary field – security and emergency management. LiU has also played an active role and made use of the opportunities within both of the strategic research areas where LiU researchers have participated as partners. LiU also receives high praise for the actions of its management, and for the way the venture has further strengthened and developed collaboration with business and industry.

It was the 2008 Research Bill that tasked the Swedish Research Council, Formas, VINNOVA and the Swedish Energy Agency with allocating funds for a number of strategic research areas.

Educational Sciences tops bibliometric index

Last year second place – this year a slight improvement! LiU research achieved first place in the Swedish Research Council’s latest bibliometric index in the field of education.

“In the five or six years that the Swedish Research Council has been counting publications and citations, Educational Sciences at Linköping University has been at the forefront, together with the universities of Stockholm and Gothenburg. In the latest count, which will now form the basis of funding allocations in 2015, we have climbed to first place with an index of 193.8. Second is Stockholm, with 159.2,” says Andreas Fejes, professor and pro-dean of the Faculty of Educational Sciences.

So what is the reason for such success? “First of all that we have a number of damned good researchers,” Professor Fejes says, laughing. “But we have also made a conscious effort to get research findings published in reputable international journals and we have also pushed doctoral theses that build on amalgamations of articles that have been published internationally.”

Book about EU’s colonial roots

The European Union is often described as a peace project, and as such it has received the Nobel Peace Prize. But below the surface another story lies hidden.

When the modern-day EU was created, it was not the desire for peace that was the key motive. Instead, it was the colonial powers in the European Community seeing the possibility of maintaining their colonial influence by means of collaboration and joint investments. The aim was to create an Africa in the thrall of Europe - Eurafrica. This third bloc would ensure Europe’s geopolitical position in relation to the superpowers of the Soviet Union and the United States.

In their new book “Eurafrica. EU:s koloniala rötter” (Leopard förlag), Stefan Jonsson and Peo Hansen from Linköping University bring the project out of the shadows. The book was published in English by Bloomsbury in 2014 under the title “Eurafrica: the untold history of European integration and colonialism.”
Ion pump stops pain impulses

A small ion pump in organic electronics is giving new hope to people suffering from severe nerve pain. Researchers at Linköping University and Karolinska Institutet are the first in the world with technology that can stop pain impulses in living, freely moving rats using the body’s own pain relief signals.

The results of ten years of research are now being published in Science Advances.

The implantable “ion pump” that delivers the body’s own pain alleviators with exact dosage precisely to the location where the pain signals reach the spinal cord for further transmission to the brain, could be in clinical use in five to ten years.

Firstly, the device gives hope to the seven percent of the world’s population suffering from nerve pain for whom no other cure has been found - until now. But the pump could also be used to supply therapeutic substances to the brain and other parts of the body in addition to the spinal cord.

“The ion pump can be likened to a pacemaker, except for alleviating pain,” says Professor Magnus Berggren, head of the research conducted by Assistant Professor Daniel Simon and PhD student Amanda Jonsson at the Laboratory of Organic Electronics at Linköping University’s Campus Norrköping, in collaboration with Dr. Zhiyang Song of the Department of Clinical Neuroscience at Karolinska Institutet, where Professor Bengt Linderoth leads the preclinical side of the project.

Researchers awarded honorary degrees

Four international researchers were awarded honorary degrees from Linköping University at a ceremony in May.

The Faculty of Arts and Sciences awarded the Norwegian sociologist and political philosopher Jon Elster, Columbia University. Prof Elster is one of the most internationally recognised Scandinavian sociologists of the past few decades.

Other researchers awarded:

Professor Linda Penn from the University of Toronto, Canada, collaborates with several researchers from LiU, and has played a key role in the establishment of LiU Cancer – a pan-university research network.

Professor Mathias Schubert from the University of Nebraska-Lincoln, USA, is a world leader in spectroscopic ellipsometry and has contributed to the development of blue and white LEDs, fast processors and efficient biological and chemical sensors. He played a key role in the foundation of laboratories for spectroscopic ellipsometry at Linköping University.

Thomas L. Marzetta at Bell Laboratories has developed a concept for the 5G wireless communication systems now under development in the telecom industry. Dr. Marzetta collaborates with researchers at Linköping University.

Honorary degrees was also awarded to Torbjörn Kronander and Jan-Olof Brier, current and former CEO and President at Sectra. Sectra was a cofounder of CMIV at Linköping University, which has gained attention worldwide for its operations in medical imaging and visualisation. An honorary doctorate has also been awarded to folk scholar Per Gräslund, who has a vast knowledge of life in the Swedish archipelago.

Award-winning solar cell researchers

Olle Inganäs and Fengling Zhang have received the Thomson Reuters “World’s Most Influential Scientific Minds” award. They are both professors at the Division of Biomolecular and Organic Electronics in the Department of Physics, Chemistry, and Biology, where their research areas include organic solar cells.

Fengling Zhang Olle Inganäs
"I WANT TO GIVE SOMETHING BACK"

He fled Rwanda with his family at the age of nine. Today Lambert Rutaganda combines studies in industrial economics with elite-level kickboxing. His foremost role model is his mother.
Lambert Rutaganda taps in the code to the martial arts centre on Apotekargatan, a street in Linköping, and heads out of the spring sunshine into strip lighting and soft black mats. A quick change of clothes and then an explosive training session of kick-boxing.

The contrast with the luxurious surroundings of the Handelsbanken main office in Stockholm could hardly be greater.

Nowadays Stockholm is Mr Rutaganda’s home; after his graduation project, which looks at the impact of stock issues on share prices, he is planning on continuing to work in the capital. The last term of his MSc in Industrial Engineering and Management will soon be at an end.

“But Linköping is still my hometown. My brothers and sisters and their families are here,” Mr Rutaganda says.

And so many important things happened here: starting a new life after his family’s flight from Rwanda, total dedication to kickboxing in his late teens, leading to victory at the Swedish championships and competing at the world championship, and his studies at Linköping University.

At a gala evening at Berns in Stockholm in early March, Mr Rutaganda went on stage during the Universum Awards to accept the award for Challenger of the Year – one of five categories of Student of the Year.

The jury’s citation highlighted his abilities, great social commitment and his work to help young people find meaning and companionship through martial arts.

**AND YOUR OWN DESCRIPTION** of yourself as a challenger?

“I like to master things. I don’t like to see things as impossible. You never know where the limits are if you don’t push them,” Mr Rutaganda says.

He has changed clothes again after the kickboxing display and looks just as calm as he says he is.

“There is something in the culture of sport, the combination of explosive action, discipline and balanced control. Both physically and mentally. But I am also a calm person by nature and I have done well despite my background.”

Or partly because of it, strange as that may sound.

“As a nine-year-old, I had to flee through five countries. That made me grow up quickly and realise how important it is to adapt and to listen to others.”

He experienced things a child should not have to experience, but he also met strong people who chose to see opportunities and not let themselves be rendered passive by the complicated situations they found themselves in.

“My own mother is my greatest role model. As well as bringing up four children in a new country, she studied for a master’s in international relations, graduating in 2005. She then went on to get her PhD at Ulster University in 2010. Now she works with peace and conflict issues at the Stockholm International Peace Research Institute.

**THE CHILDREN OF THE** Rutaganda family all studied at Linköping University: computer engineer, business lawyer, masters in industrial economics, applied physics.

And with this background, Mr Rutaganda became a real role model for all the young people he met when he got involved in publicising martial arts through demonstrations on city streets and squares, and at community youth centres.

“I want to give back something of what I gained from sport myself. Especially the companionship in the club.”

At the age of sixteen, his passion for maths, football and sports in general shifted to kickboxing when he went along with a friend to a training session.

It turned out Mr Rutaganda had talent above and beyond the normal. In 2009, the same year he graduated from high school, he won the Swedish championship. The following year he became the youngest ever man to represent his country, reaching the quarterfinals of the 2010 World Championships in Austria.

But even elite-level talent needs to be nurtured.

He combined school studies with 15 training sessions per week, took a year off, travelled around as event salesman for Tre, and trained and competed around the world.

“Then my father passed away. I suddenly realised I had a family in Linköping who were important to me and who I wanted to be close to.”

Mr Rutaganda began studying industrial engineering and management during an exchange term in San Diego.

“The years I was publicising martial arts and working as a salesman, I discovered how much I enjoyed working with people and how quickly I can establish contact with others, to an extent on their terms. For me it’s like playing a role: to find out other peoples’ expectations and then adapt my behaviour to that.”

To succeed in making other people want something – that sounds like a decent starting point for the leadership he is now trained for.

“But I can probably see myself studying more in a few years. Compete with my mother and get a PhD,” he reveals.

He has already started kickboxing again.

In January he was a pulled muscle away from gold in the Swedish nationals in his weight class, and is unlikely to be satisfied with a silver medal.
Teachers with an international outlook

The first generation of students to study upper-secondary school teacher training with international specialisation has just returned from their term abroad. They now have experience and perspectives that they could not have gained in any other way.

B ringing experience, as an upper secondary teacher, from study abroad into the classroom and being able to talk about what it is really like in other countries makes things more genuine, appropriate and interesting for the students.

This is the opinion of Lisa Bollman and Robin Ståhl Engström, who are studying in the programme for upper secondary teachers with international specialisation and recently arrived home from a term of study abroad.

“Everything was so different, the whole education system, teaching and pedagogical method,” says Lisa, who is studying to teach English and the social sciences and just spent a term in Nairobi in Kenya.

“The teacher was an authority in a completely different way than here at home.” And something so simple as the fact that not all the students actually had access to the course literature meant that the lectures and discussions became that much more important.

“We discussed things like political systems, international relations, relations between developed and developing countries and colonialism. Getting an African perspective on this was extremely interesting. I wish young people understood how good things are here in Sweden.”

ROBIN, WHO STUDIED geography for a term in Winnipeg, Canada, did not have quite as many discussions. It was more teacher-led learning with less study at home. The atmosphere was more rigid and the climate was not conducive to challenging the lecturer.

“I was surprised about how much fact-based learning there was, a lot of dates and figures. Some courses were just lectures. One trick the teachers had to get the students to come was to have presentations with certain words left out. You had to go to the lectures to get the words and to be able to follow. The tests were simple, with multiple-choice questions. Other courses were more like Swedish ones with group work, presentations and assignments.”

AS THE ONLY WHITE, Western student on the campus in Nairobi, Lisa felt she had to represent the West, and defend it.

“Compared with Sweden there’s a very traditional view of women in Kenya. Most people think the woman’s place is in the home. They thought it was really odd when I told them that my father cleaned, cooked and looked after us kids when I was growing up. It was the guys who spoke most in the discussions. I often saw men pushing in front of women in queues. But sometimes I told them off.”

As a Swede, Robin had to represent the whole of Europe and answer all sorts of questions.

“Above all they were really interested in environmental issues like trash sorting, bicycle paths and town planning. Sweden, and Scandinavia in general, is a role model there. For example, they were very interested in how biogas works. This all meant I learned a lot about Sweden too – things that we take for granted and think are obvious.”

BOTH ROBIN AND LISA are now considering doing their work-based training and graduate projects abroad. Lisa is thinking about Brazil, but Robin who whetted his appetite on North America, is thinking about the University of Kentucky, which Linköping University has an agreement with.

“You’re teacher training lasts five years. So it’s a good thing to change environments. Society is becoming more and more multicultural and it’s important for teachers to understand this,” Lisa says. “I’m studying teaching Swedish as a second language and would like to work in a school with an international approach, or with students from many different cultures.”

“I’d like to use my experience to teach in specialised areas, such as globalisation and internationalisation,” Robin says.

TEXT ELISABET WAHRBY
FACT BOX ABOUT UPPER-SECONDARY TEACHER TRAINING WITH INTERNATIONAL SPECIALISATION

LINKÖPING UNIVERSITY is the only institution in Sweden offering international specialisation in its upper-secondary level subject teacher training programme.

In the autumn of 2011 the first students started the programme and since then two more groups have started.

There are ten places in social sciences and ten in mathematics.

STARTING IN THE FIRST TERM, the group does its work-based training in Rotterdam in the Netherlands, a traditional multicultural port city where the students can experience a multitude of languages and teaching aids.

WHEN THEY ARE TO DO their term abroad, Linköping has agreements with some ten universities worldwide with appropriate courses in social sciences and mathematics. Students can do a ready-made package there, but they are also able to choose other alternatives.

The students can also choose to do their final work-based practice period and their graduation project abroad.

More information about the programme with films, blogs etc. (in Swedish).
http://www.student.liu.se/ut/utbildningsvetenskap-lararutbildning?l=sv

ABOVE we see the Campus in Nairobi. And to the RIGHT we have Robin Ståhl Engström, a LIU ambassador in Canada. BELOW Lisa Bollman with her friends.
Alumni from innovative universities all over Europe, including Linköping University, were invited to a networking event in Brussels on 16 April. Some 70 people attended, 13 of them LiU alumni. The event was organised by ECIU (The European Consortium for Innovative Universities) in connection with its executive board meeting in Brussels. LiU Vice-Chancellor Helen Dannetun greeted the participants in her capacity as ECIU president.

This was the first alumni get-together hosted by all ten ECIU universities. The member institutions share a number of distinctive characteristics. Many were among the first to use project-oriented problem-based learning and they collaborate closely with industry and business.

“Letting alumni benefit from the extended ECIU network is yet another way of being innovative and promoting collaboration. Our alumni have often expressed interest in an event in Brussels and we’re pleased to have been able to meet them”, says Margareta Alfredson, who works in international marketing and alumni relations at Linköping University.

Alumni world

KARL BJÖRNFOOT is project engineer at Shell EP International in Dubai, United Arab Emirates. He gained a MSc in mechanical engineering in 2007.

YOUNG DIEP THANH is english teacher at Mekong University in Vietnam. He studied an intercontinental master in adult learning and global change, and graduated in 2013.

DANIEL FORSBERG is research scientist at Sectra North America in Shelton, USA. He graduated in 2007 with a MSc in applied physics and electrical engineering.

TANJU BINTE GOFRAN is a scientific assistant at Hochschule Karlsruhe in Germany. Tanju Binte Gofran studied an international master’s programme in mechanical engineering and graduated 2013.

NICLAS JÖNSSON is counsellor in education & science at the Australian Embassy in Brazil. He studied International business and economics programme, and graduated in 1998.

ABDUL LATTIF ADAM is assistant operations manager at Port Futures Ghana Ltd in Ghana. He studied a master in international and european relations and graduated in 2008.

ANNA KÄCK is global sourcing manager at Assa Abloy Hospitality AS in Ski, Norway. She studied industrial engineering and management, and graduated in 1999.

MY LIDBERG is a logistics consultant at Orkla Foods in Trollåsen, Norway. She gained a MSc in communication and transport engineering in 2013.

CARL LINDWALL is head of department at Stamford International University in Bangkok, Thailand. He graduated in 2010 with a MSc in industrial engineering and management – international.

CHRISTOFFER LAGERSTEDT is front end developer at IRM Pty Ltd in Sydney, Australia. He studied media technology and engineering and graduated in 2012.

SWADHIN K MANGARAJ is senior software engineer at Tata Consultancy Services in Bangalore, India. He studied an international master in computer systems and graduated in 2014.

HENRIK NORDENBORG is project leader at Siemens AG in Erlangen, Germany. He gained a MSc in industrial engineering and management – international in 2003.

JOHN WILANDER is product security officer at Apple in Cupertino, USA. He gained a MSc in computer science and engineering in 2002.

Do you want to know more?

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Alumni met in Brussels

Aygun Shafagatova and Ramin Shafagatov became a couple at LiU.
The importance of innovation is one thing they both learned during their master’s studies at Linköping University. Now Sandhya Mudduluru and Sandeep Jakkampudi return to speak at the Farewell Ceremony in June.

Sandhya Mudduluru works as a software engineer at Ericsson, while Sandeep Jakkampudi is a self-employed business consultant at Woodpie, a company marketing Nordic timber in India. Both speakers are originally from India, but remained in Sweden after their studies.

They have noticed many differences between the two countries in terms of culture and the way people do things. Both mention that Swedes take a lot of responsibility for the environment.

“They are also very systematic. Always in time for classes. Study five days a week, then party on Friday”, Mudduluru says, laughing.

“The student-lecturer relationship is very friendly. In India we call the lecturers Sir or Madam, here in Sweden we just use their first names. I felt very comfortable asking questions during my master’s studies”, Jakkampudi says.

IT WAS THE career fair LARM that brought Sandhya Mudduluru, then a master’s student in Computer Science, to Ericsson. There she came across the competition Future Career, sponsored by three Swedish companies. She advanced through all three rounds and finally her team won for Ericsson. The company offered her a master thesis and then a job.

“My time at Linköping University, where I met people from all over the world, has definitely helped my work. We have constant discussions about how to improve things, for example how we deliver code to our customers. I must be able to communicate and work with many different people.”

Sandeep Jakkampudi also emphasises working with different nationalities as a useful lesson from Linköping University, where he was the president of the International Student Association (ISA) for one year.

Another thing they both learned is how important it is to be innovative. Jakkampudi even switched from his original master’s programme System-on-Chip to one focussing on innovation and product development. Then the wood industry caught his interest and he started his own business, liaising between Scandinavian vendors of forest products and Indian purchasers.

THE FAREWELL CEREMONY is Linköping University’s annual congratulatory ceremony for international master’s graduates. What advice do the two speakers want to share with them?

“I would like to quote Steve Jobs: ‘stay hungry, stay foolish’. Don’t be afraid to do things differently”, Sandeep Jakkampudi says.

Sandhya Mudduluru warns against planning your career too much.

“You may miss what’s in front of you. Be open and grab the opportunities that come in your way. That’s what I did.”

TEXT MARIA KARLBERG
MEET LINKÖPING UNIVERSITY ABROAD

Over the past year, Linköping University has held eleven alumni get-togethers around the world. LiU alumni have also taken part at several student recruitment fairs.

LiU alumni have met up in San Diego and Kentucky in the United States, in London in the UK, in Guadalajara, Mexico, in Guangzhou, Beijing and Shanghai in China, in Ankara and Istanbul in Turkey, in Jakarta, Indonesia and – finally – in Brussels, Belgium.

These meetings are an opportunity for Linköping University to keep in touch with its alumni and to keep them updated with university news. For the alumni it’s also a good way to find others who have studied at LiU and to network locally.

The university has also taken part at 18 international student recruitment fairs – see map. At several of these, local alumni have helped out, talking to prospective students about what it is like to study at Linköping University.
GREAT BRITAIN: London

BELGIUM: Brussels

CHINA: Beijing, Guangzhou and Shanghai

TURKEY: Ankara and Istanbul, Izmir

SOUTH KOREA: Busan and Seoul

INDIA: Bangalore, Chennai, Hyderabad and New Dehli

INDONESIA: Jakarta, Surabaja
LIU ALUMNI AROUND THE GLOBE

See what happened to some of the international master’s students.

Guruprakash V.N

PLACE OF RESIDENCE: Hyderabad, India
FAMILY: Single
NATIONALITY: Indian
WORK: Senior Quality Assurance Analyst, FactSet Research Systems Inc.
CURRENT WORKING ACTIVITIES: My work involves engaging with two major groups, one is analysis and sharing the inference on the big data samples and second is working with the interesting people.
BEST THING ABOUT YOUR JOB: The present job demands high analytical skill, which is challenging and interesting. Also, job offers travelling to other business unit away from India, which I feel, a kind of best thing about the job and is always refreshing.

Desi Waluyanti

PLACE OF RESIDENCE: Greater Jakarta Area, Indonesia
FAMILY: Single
NATIONALITY: Indonesian
WORK: Officer at Indonesia Transport Ministry
CURRENT WORKING ACTIVITIES: Working on design of Master plan of Road transport and traffic network; meeting people from around the world at International Transport Meeting.
BEST THING ABOUT YOUR JOB: It’s always interesting when I have a lot of things to do, everything related with road transport makes me interested, and meeting people from around the world really the best opportunity I have and it let me to get more experiences.
HOBIES: Reading, watching movies and travelling.
EDUCATION AT LIU: A year program 2009-2010 – Master’s in Intelligent Transport System.
MOST MEMORABLE LIU EXPERIENCE: Everything about LiU was impressive; studying and working in some projects with people from other countries; cycling; fika with Swedish and friends around the globe; International Day (IDay) when everyone should perform their home/country cultures including food, dance, song, traditional clothes etc; and also LiU has the best school environment.
Erhan İnanç

PLACE OF RESIDENCE: Izmir, Turkey
FAMILY: Wife and 1 year old son
NATIONALITY: Turkish
WORK: Food Engineer in Ministry of Food, Agriculture and Livestock
CURRENT WORKING ACTIVITIES: Technical consulting and inspection for food manufacturers, distributors and dealers.
BEST THING ABOUT YOUR JOB: My endeavour is to provide healthy and hygienic food for consumers. Idea of struggling for next generations is the greatest part of my job.

HOBBIES: Running, fishing and of course spending time with my son.

EDUCATION AT LIU: I am an ex-Erasmus in LiU (2007).

MOST MEMORABLE LIU EXPERIENCE: To create an international network was great. I still keep in touch with LiU people. I have deathless memories from student life at Rydsvägen. Fika, Herrgården, BBQ on the snow, Stora torget and Intervallen Kravall were the keywords of my LiU life.

Sung Shin

PLACE OF RESIDENCE: Kuala Lumpur, Malaysia
FAMILY: Single
NATIONALITY: Korean
WORK: Trading & consulting at PDS Consulting Sdn Bhd
CURRENT WORKING ACTIVITIES: Supporting exhibitions and conferences in Malaysia, for Korean companies to find buyers, with researching and consulting services.
BEST THING ABOUT YOUR JOB: I feel very proud of my job in that we help for Korean companies to strengthen their business line in Malaysia through business matching, supporting exhibitions and consulting.

HOBBIES: Travelling, listening to music and reading books.

EDUCATION AT LIU: I studied at LIU in 2011/2012 academic year, took some courses in the Culture and Communication Department.

MOST MEMORABLE LIU EXPERIENCE: During the LiU student period in Sweden, I could broaden my view of life by meeting diverse people and experiencing a variety of cultures through international classes, parties and travelling several European countries. I still can’t forget the beautiful scenery in Linköping and my corridor life in Ryd. See you in Sweden, again!

“I still can’t forget the beautiful scenery in Linköping and my corridor life in Ryd.”

“I still can’t forget the beautiful scenery in Linköping and my corridor life in Ryd.”
They work with the world’s largest companies

Armed with a new type of database, LiU alumni and childhood friends Emil Eifrem and Johan Svensson have marched out into the world. Neo Technology now has some of the biggest companies in the world on its client list.
Silicon Valley looks like you imagine California to be: low buildings, palm trees, a sun that's always shining. Driving along the wide highways you pass companies such as Apple, Facebook and Google. This is where Neo Technology has its main office. The company was started in 2007 by LiU alumni Emil Eifrem and Johan Svensson. They developed it in LEAD, the Östergötland business incubator, and they now have 80 employees – half in Europe and half in the United States.

When LiU magazine visited Neo Technology's office, both founders were there. Normally Johan manages their development work in Sweden, while Emil is responsible for the market in Silicon Valley.

“Entrepreneurship is cool these days. But that wasn’t the case when we started,” Emil laughs.

They have known each other since they were teenagers. After high school, Johan studied computer engineering at Linköping. Emil did his non-combatant military service and then started working at a startup in Lund. After a while he enticed Johan to join him.

“I was working on my graduation project when Emil called from Lund and asked me to come down,” Johan says.

The company they worked at had ten programmers who spent most of their time, according to Emil, “quarreling with databases”. At the time there was only one type of database, but Emil, Johan and a colleague discovered that their problems would disappear if they could build a database that organised data in a different way.

“In 2000 we were the only ones who saw that there was another way to make databases. When we talked to people they thought we were mad. We felt they were wrong, but at that time there was no understanding of what we had discovered.”

They developed their idea but they did not know how to go forward. Emil decided to begin studying at university while he continued to work part time.

“In 2003 I began studying for a master’s in computer engineering. I also took some economics courses and history of economics, which is actually the most interesting subject in the world,” he says.

In 2006 the industry began looking at databases differently. Big companies like Google were building gigantic systems but weren’t using traditional databases.

“We felt that now was the time to try reaching out with our idea, but we didn’t know how. I talked to Linköping University, to people like Arne Jacobsson who was working with the innovation system. He told us we should build a company around our idea. So we moved into LEAD. There we began working with business coach Tomas Hagenfeldt.”

Emil and Johan were both very knowledgeable as regards technology. Emil was also very interested in economics but his time in the incubator was particularly instructive concerning questions on financing.

“We got a lot of help in discovering how you find venture capital. We spent two years at LEAD. When we started work there, we hoped that other people would gradually realise we were doing something good. When we left we had raised 2.5 million dollars in venture capital from two large Swedish venture capital companies.”

In 2011 they opened their office in Silicon Valley. Emil moved there while Johan stayed in Malmö, where their main office was at that time. Emil says the Americans are unbeatable when it comes to selling.

Their database is called Neo4j, and currently their customers are almost exclusively large companies.

“When you are working on a certain type of problem, our product is unbelievably much better than traditional databases. We're not talking ten or twenty percent better, but a thousand or even a million times better. It is used by one of the biggest companies in the world, the Walmart retail chain. Other clients we have include UBS, the investment bank, and IT giant Hewlett-Packard. In Sweden Telenor and 3 use our database,” says Emil.

Nowadays a lot of people want to start a company and move to Silicon Valley. Can you give them any advice?

“It’s easier if you get the company started in Sweden, because it is expensive here. Just living and eating costs a lot,” Johan Svensson says.

“Giving general advice is difficult. It depends on what product you have and what market you are targeting, and also on your family situation. But it’s obvious, if you are working with software this is the centre of the world,” Emil Eifrem concludes.
“Driving changes is in our genes.”

Anders Ynnerman, Professor of visualization