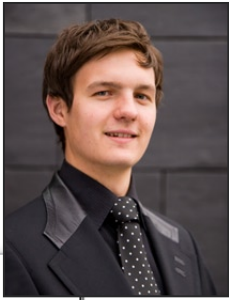




CETAC TRAINEE REPORT 2008

Julius Karlsson
RO Associates,
San Jose



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Gustav Josefsson
Cornell Uni, Ithaca



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Frida Polheimer
Fast, Boston



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Andreas Jonsson
Fast, Boston

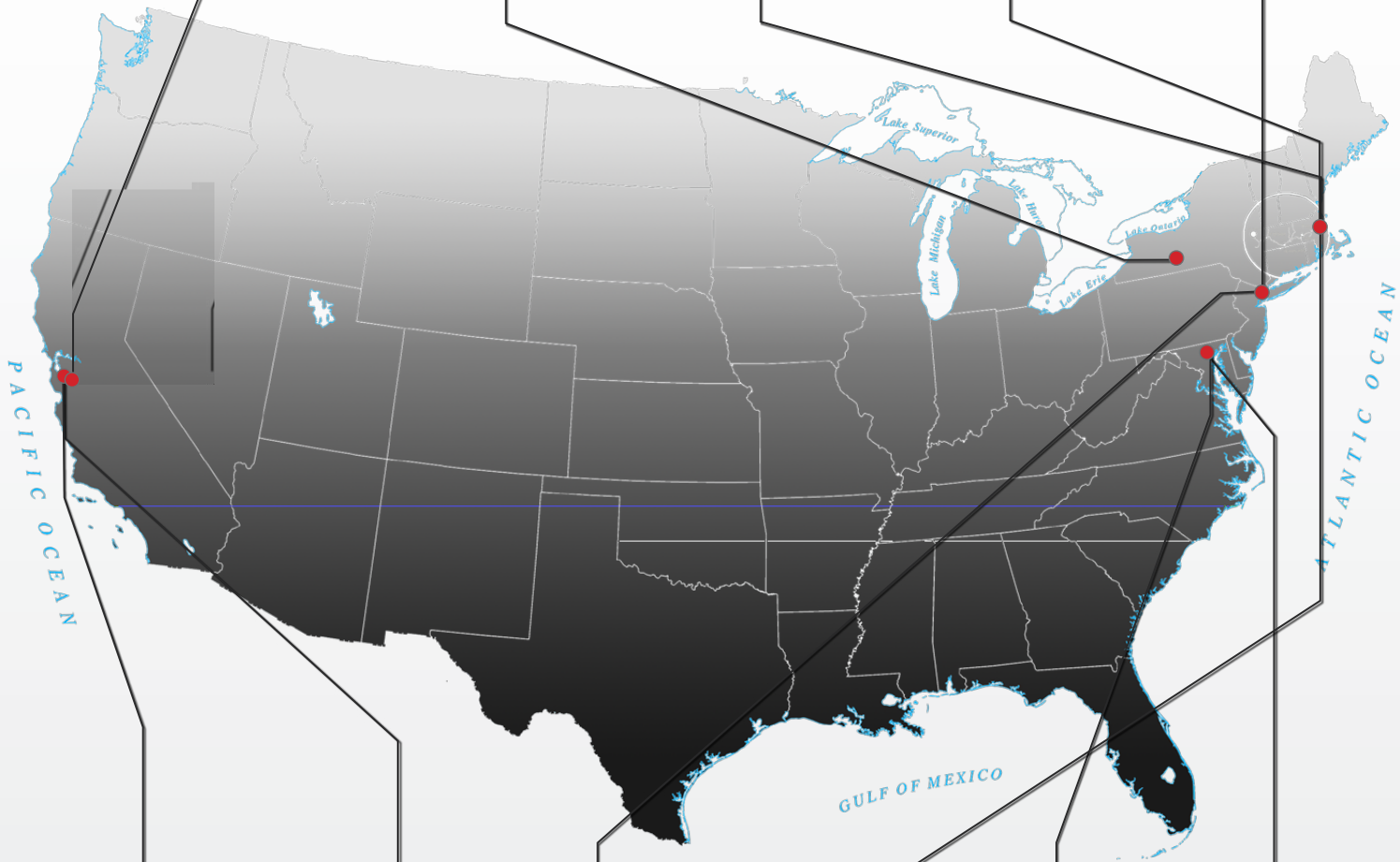


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AuSIM, Palo Alto

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VMware, Palo Alto

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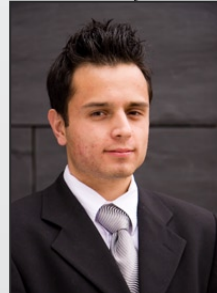
Fredrik Forsberg
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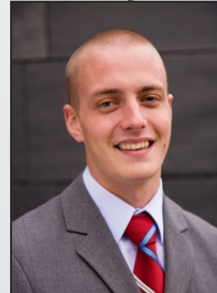
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Ruben Sharma
NVI, Greenbelt

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Tomas Gille
NVI, Greenbelt

cetac

The idea of this column is to introduce the reader to CETAC and what this report paper is all about. CETAC is a student committee with students from Computer Science, Engineering Physics, Electrical Engineering and Software Engineering at Chalmers University of Technology. The sole cause and aim of the committee is to help its members get an internship at a company in North America, for the benefit of both the member and the host company.

Got the picture? Good.

Our members are the most dedicated people I've ever had the privilege to meet and to work with. We all do this in what little spare time we have when school has been taken care of. Chalmers boasts the best that Sweden has to offer and CETAC provides the best that Chalmers has to offer.

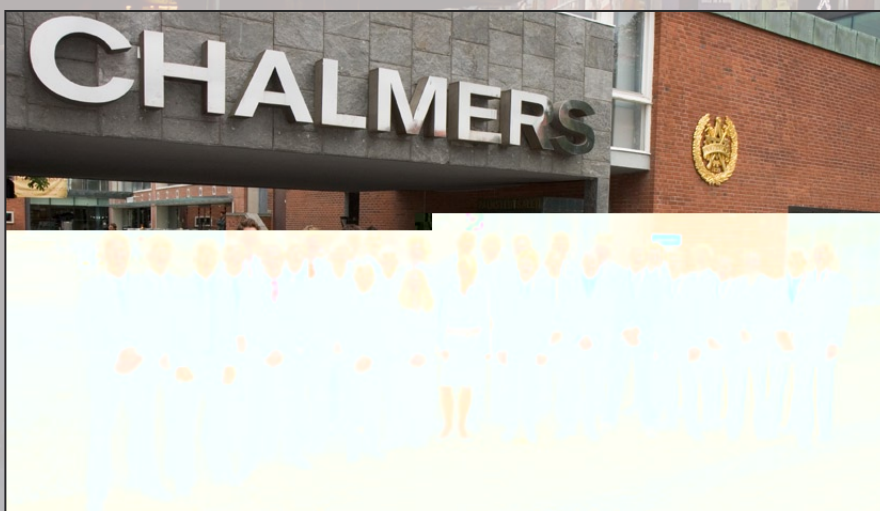
In time, when I can influence the internships at my workplace, I will be able to vouch for the students coming from CETAC. Because I know that future generations of the committee will continue and to honor the legacy the same way we have, I will always rest assured that a CETAC trainee will have much to offer.

Johan Lundström
Editor-in-chief



Julius Karlsson Appointment manager
Johan Lundström Editor
Tomas Gille Appointment manager
Mikael Antonsson Chairman
Frida Polheimer Dir. of Advertising
Erik Jakubiowski Treasurer

The board of CETAC 2008



The members of CETAC 2008 in August of 2007

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A San Fransisco look out spot



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One of Fredrik's encounters in NYC

Att söka cetac

Du håller nu entidning fylld med reseberättelser från chalmerister som har varit i USA sommaren 2008. Läs vad de har upplevt, och ha gärna i åtanke hur det skulle vara att själv flyga över Atlanten, samla värdefull erfarenhet för framtiden och uppleva världens alla kulturer i Nordamerika sommaren 2010!

CETAC lägger stor vikt vid att praktikplatserna är intressanta och kvalificerade ingenjörsarbeten. Vi kan stoltsera med tidigare arbetsgivare som till exempel Siemens, NASA, Apple, Intel, Microsoft, Silicon Power Corp, Merlin Engineering Works och SUN Microsystems. I regel varar praktiken åtta till tolv veckor, men en del stannar betydligt längre än så!

Praktiken ger inte bara goda arbetslivserfarenheter, utan dessutom ett värdefullt kulturellt utbyte. Kulturell förståelse och erfarenhet är något som efterfrågas allt mer i det ökande globaliserade näringslivet. Språkerfarenheten är också väldigt viktig, då ingenjörers kommunikativa förmåga är av stort värde för företagen idag. Så ligg steget före; Sök medlemskap i CE-

“Praktisera i USA eller Kanada sommaren 2010”

TAC och upplev ett spännande och lärorikt äventyr sommaren 2010!

Medlemskap

För att bli medlem i CETAC skall du studera på D, E, F eller IT, samt vara svensk medborgare eller ha permanent uppehållstillstånd i Norden. Vid ansökningstillfället måste du även uppnått minst 75 hp på din utbildning, och under det kommande året uppnå sådana studieresultat att du är studiemedelsberättigad. CETAC är föreningen för dig som är motiverad och beredd att lägga ned tid och engagemang för att få ut något extra av din studietid.

Att söka styrelsen

CETAC 2009 kommer under läsperiod tre 2009 att söka medlemmar till styrelsen för CETAC 2010. Den nya styrelsen antar sedan ungefär 25 nya medlemmar under läsperiod fyra 2009. Styrelsen består av fem personer. Ordföranden organiserar arbetet, håller kontakten med American-Scandinavian Foundation och hanterar visumansökningarna. Kassören lägger upp en budget, deklarerar och fakturerar företag vid annonsförsäljning. Efter vistelsen i USA skriver alla varsin reseberättelse. Dessa sammanställs sedan i vår tidning, Trainee Report, som du nu hål-

ler i din hand. Redaktören har till huvudsaklig uppgift att utforma tidningen men framställer även broschyrer, affischer och andra trycksaker. I styrelsen ingår också två jobbchefer som kontakter amerikanska företag och letar efter lämpliga arbetsgivare.

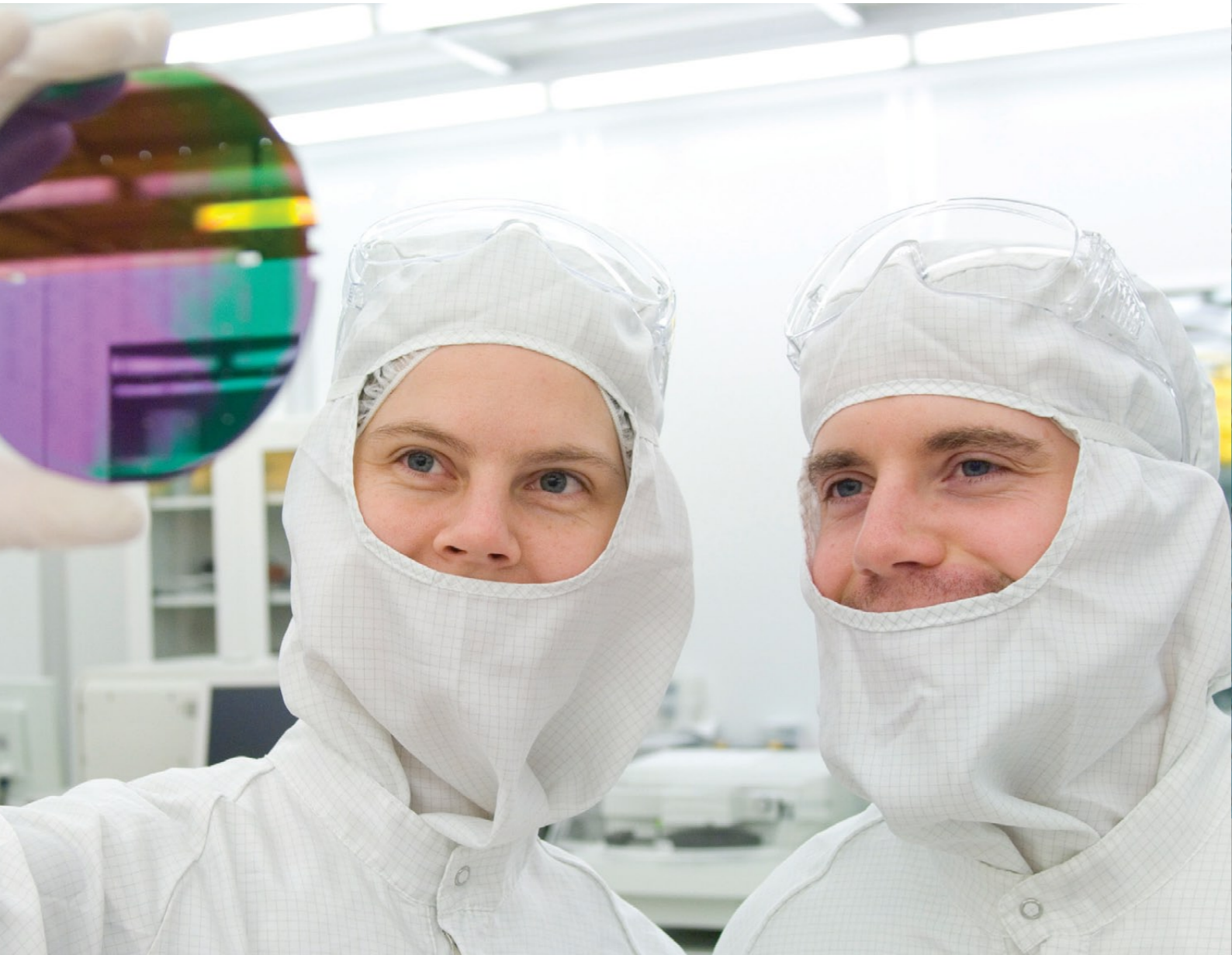
Att vara medlem i CETAC

Medlemsskapet i CETAC bygger på såväl personliga arbetsinsatser som arbete i grupp mot ett gemensamt mål. För att kunna finansiera resan till USA och andra omkostnader samlar man som medlem in bidrag och säljer ett antal annonsplatser i Trainee Report. Annonsförsäljningen inleds på hösten med en resa till Stockholm. Under denna resa besöks intressanta företag där medlemmarna får presentera både sig själva och CETAC. CETAC har ett brett kontaktnät med företag, vilket medlemmarna kan utgå ifrån under annonsförsäljningen. Under hösten anordnas även en säljkurs och en CV-kurs för CETAC:s medlemmar. Att vara medlem i CETAC är ett stort engagemang men det ger samtidigt en unik möjlighet till en givande avlönad praktik i USA eller Kanada och många nya vänner och kontakter från Chalmers och Nordamerika. Så ta chansen och sök du också!

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By Julius Karlsson

The City that never Sleeps



STP who had made it to NYC had reservations at the Chelsea hostel at W. 23 street. The hostel had not prepared for the heat

They call New York the city that never sleeps. That is definitely true to some extent. Unlike many other cities in the world, New York offers amusement, service and a great time pretty much every hour of the day. That was something the CETAC crew of 2008 discovered instantly when we arrived to the city early June this year.

The gathering in New York is one of the last things the members of CETAC do together. It is a week full of new impressions and experiences, good laughter, late nights and, as it should turn out, early mornings. Before everyone in CETAC and Chalmers USA STP leaves for their respective work placements we all spend one week together in New York. There we, apart from doing tourist stuff, get to meet with the American Scandinavian Foundation, the organization that has helped us with getting our visas and all of the paper work regarding our internships.

Early June 2008 a massive heat wave came over New York and surprised the city with an unusually early and hot summer. Most of the members in CETAC and USA

and therefore we all struggled with the absence of air conditioning which made it impossible to sleep before 2 am or past 6 am. Of course this lack of sleep gave us more time exploring the city and its sights! For example; when all but one CETAC member had arrived to NYC we met up at the Rockefeller Center to enjoy the city from above, an impressive view! After that we took a walk together up to Times Square to a bar that we knew showed Sweden's first soccer-game in the European Championship. The atmosphere was great a m o n g all the Swedes gathered there and even better when the game e n d e d ;



2-0 vs. Greece! or out to various night clubs.

After that everyone had their own agenda in the city. Some went sightseeing; Empire State Building, the UN Building, Central Park, Times Square, Grand Central, Brooklyn bridge, museums and much, much more. Some went shopping for electronics, some for clothes. Some went to comedy clubs, baseball at Yankee stadium

We had one more activity all together though, the meeting with ASF. We all gathered at ASF:s location at the Scandinavia House on Park Avenue. There we got to meet all the people who helped us getting to where we were. After some paper pushing, information and interesting speeches by Jean Praal and Tatiana Pashman with the ASF and Niklas Arnegren with the consulate general of Sweden we all went for dinner on the expense of ASF. During the dinner we chatted about New York, the United States and all we could think of regarding our stay. We were also given tickets to a sightseeing trip by boat around Manhattan and I think I speak for all of us when I say that the ferry trip truly was amazing.

After this the group started to split up. Depending on the arrangements for the individual internships, CETAC members began to move along to their new homes for the summer, the following days. People went by subway, plane, bus or train throughout the country. Some went to the capital, some left for the west coast, two others for Boston and one for Cornell University while some stayed in New York. As you will see if you continue to read our respective trainee reports we have all had a great time no matter where in the country we spent our summer. A few members are still enjoying themselves in the greatest country in the world as this is written. We have all had valuable but different experiences due to our respective internships and their locations, but we all have one thing in common; we all miss New York.

MASTER'S PROGRAMMES

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Fundamental Physics

Engineering Mathematics & Computational Science

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Engineering Mathematics & Computational Science

The aim is to provide a solid background in mathematics and/or mathematical statistics as well as in scientific computing and computational science. You are trained to solve mathematically formulated real-life problems that arise in science and industry. You will be able to meet the increasing demand of mastering not only a certain engineering field and corresponding mathematical modeling but also to a certain extent computation/programming and algorithm development.

The programme has three specialisations: Mathematics, Mathematical Statistics, and Computational Science and Engineering, you can also design an individual specialisation such as Differential Equations, Scientific Computing, Optimisation, and Financial Mathematics.

For more information, see www.chalmers.se/en/sections/education/masterprogrammes/programme-descriptions/engineering-mathematics

Fundamental Physics

The aim is to provide a broad as well as deep understanding of theoretical and experimental physics at the research front. You will acquire the theoretical and experimental skills required for successful work under supervision on a research topic. You will also be able to use your acquired problem-solving skills in industrial research and development.

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For more information see <http://www.chalmers.se/en/sections/education/masterprogrammes/programme-descriptions/fundamental-physics>

CHALMERS



A trip to Stockholm By Frida Polheimer

Early on a Friday morning we met up at the train station in Gothenburg, all excited and enthusiastic about the day to come. Most of the CETAC board members were already there, handing out train tickets to arriving members. We all knew it was going to be a long day with new experiences and impressions. At 05.00 the train left Gothenburg the platform and after a couple of hours we stepped off the train

Report generate is used to support the committee's activities both in Sweden and abroad. This is obviously a very important part of the work in the committee. This is the experience from one of the members:

We had been divided into teams of two. I was teamed up with my fellow Computer Engineering student Andreas. We were

building. We kept e-mailing the companies on our list, and checked our e-mail wherever we found a free WiFi connection. Sometime around noon I got a response from a company I had contacted before we went to Stockholm, but with which I had been unable to schedule a meeting. They ended up buying an ad on the back of the Trainee Report, the most expensive spot. What a start!



The beautiful capital of Sweden in springtime

and onto the platform of T-Centralen in Stockholm.

A couple of weeks before the members had been divided into groups and been appointed a certain area of the city. The members were responsible for contacting as many companies from that area in advance as possible to schedule appointments. Since one of our appointment managers is originally from Stockholm we were able to borrow their family car for the day. To give the members as much time as possible to sell advertisements for Trainee Report 2008 the board split up into two groups. The first group stayed at the hostel, acting as a communication center for the members running around town, providing them with various information and directions. The second group used the car to drop off all the luggage at the hostels. Since the hostel we originally wanted to stay at did not have enough beds available for all of us, we had to stay at two different hostels, Zinkensdamm and af Chapman.

Working as a salesman can be a tough job, but of course satisfying when you succeed. It is also a valuable experience in creating business relations. The income that the advertisements in the Trainee

Report generate is used to support the committee's activities both in Sweden and abroad. This is obviously a very important part of the work in the committee. This is the experience from one of the members:

We had arranged a meeting with the CEO of a company called Omicron, a company specializing in advanced system development and quality assurance. We were picked up at the train station and shown to the conference room at their office. We spent a good hour talking about everything from new technology to our internships. I felt like it was a really good experience to be able to talk to a CEO of a computer company and try to pitch our idea for him, trying to convince him to support us by putting an advertisement in our magazine. We had brought a bunch of old Trainee Reports and before we left we handed him a copy and got his word that he would try to get us an ad.

We kept running around Kista trying to get meetings with companies, which actually turned out to be pretty hard, since most front desks require a scheduled appointment to even let you into their office

After a day in different parts of Stockholm, we all met up at one of the hostels on Skeppsholmen. Everybody was pretty exhausted from the long day, but equally eager to spend the evening in Stockholm. The board had booked a table at a Mongolian restaurant where preparations had been made for our party. They offered a large buffet with that was cooked as you watched. This trip to Stockholm was not just meant to start of the selling experience but also as a team building experience. Since most of us did not really know each other from before we spent the dinner talking and doing just that. There was a lot of new people and we ended up having a great time. After dinner, we stopped for a few beers on Sveavägen before we made our way back to the hostel.

The next evening we rolled into the rail yard in Gothenburg, all of us pretty exhausted from our 36-hour trip. Even though some people sold more ads than others, everybody seemed pretty happy, and we had definitely come closer as a group after spending time together. I think this trip was a great kick-off for CETAC 2008 and it made it easier to work as a group towards our goal, a great summer in the US.

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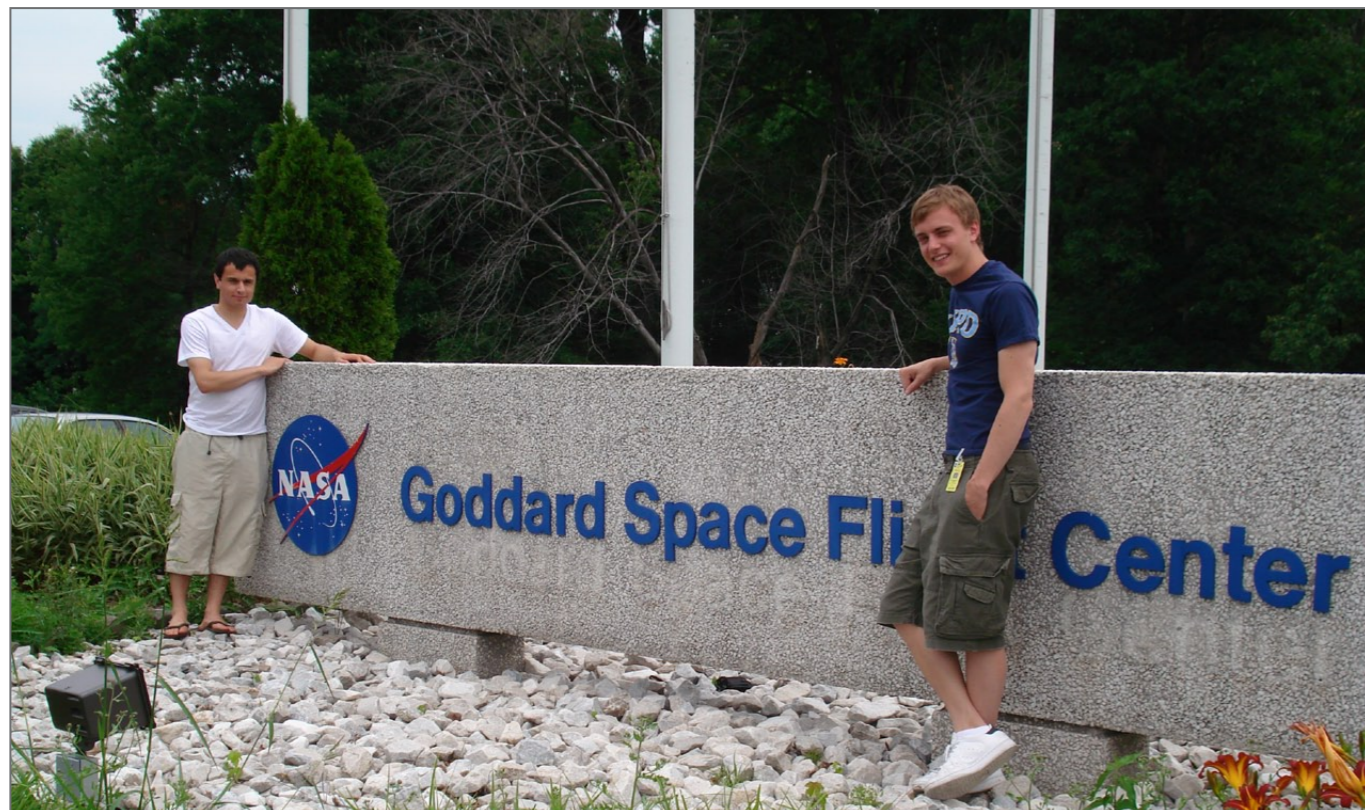
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Greek life and VLBI



Ruben and Tomas in front of Goddard Space Flight Center

NVI, Inc., which is the company where we did our internship, is a small company with around 20 employees. Their staff includes several PhDs, M.Sc, and B.Sc in various fields related to geodesy, physics, and mathematics. NVI personal works primarily at two major locations. One is the United States Naval Observatory in Washington DC, and the other one is Goddard Space Flight Center (GSFC) in Greenbelt, Maryland just 30 minutes north of Washington DC. We would be working at GSFC. GSFC was the first NASA center to be built and its mission is to expand the knowledge of the Earth and its environment, the solar system and the universe through observations from space.

Around 10,000 people work at GSFC and less than a third of them are actual NASA employees or civil servants. The majority of the people working at the base are contractors or subcontractors who received a contract for doing some service or supporting a group at NASA. NVI, Inc. has received all of the NASA VLBI contract since 1992 and is performing excellent according to NASAs own evaluations.



It's a long way to Key West

Very Long Baseline Interferometry (VLBI) is a technique for measuring distances and positions using the time difference between the arrival at two Earth-based antennas of a radio wave front emitted by a distant quasar, an extremely powerful and distant active galactic nucleus. One advantage with the VLBI technique is that it is very accurate and determines the relative positions of the antennas with an error marginal in the range of a few millimeters. With a global network of antennas all over the world it is possible for scientists to determine an initial reference frame defined

by the antennas and the quasars. Since the antennas are fixed to the Earth, their movements in the internal frame of reference could indicate tectonic plate motion, regional deformation, and local uplift or subsidence. This is the biggest advantage with VLBI compared to GPS. The GPS satellites in orbit around the earth cannot create a reference system due the short distance compared with the quasars.

Our first week in the U.S. was spent in New York City. From there, we took the train south to Washington DC. We were both subletting rooms in a fraternity house

in College Park, which is a college town where University of Maryland is located. College Park is right between Washington DC and Greenbelt. The location was perfect. However, at that point, we didn't know that we were actually subletting rooms in the same fraternity. But on the train to DC we compared addresses and we were both quite surprised when we found out they were the same. It would turn out to be very convenient to live at the same place.

University of Maryland is a big state school and in fact the largest school in the Washington area. It has two campuses, one in college park right outside of Washington DC and one in Baltimore. At most colleges in the US, there are fraternities which are basically large houses full of guys. The one we found is called "Tau Epsilon Phi", or TEP. We didn't really know what to expect when we got there, but it turned out great. Everybody was really friendly and outgoing so we seldom had a dull moment. Most of the students were living at home for the summer, but there were still around 10 people or so in the TEP house.



Building 33, our office building

On our first day of work, we went to NVI's off base office. It was also in Greenbelt, so we just took the subway and a bus to get there. However, the 15 min. trip took about 1 hour since the commuting system really isn't what it should be. At the NVI office, we filled out the necessary paper work and went to NASA GSFC where we would spend our days. Since it was so cumbersome to get to work using public transportation, our boss took us to work and back everyday. But that didn't help us in our spare time, which made it difficult even to go grocery shopping. Therefore we decided to get a cheap car

that we would simply sell when the internship was over. So we started looking for used cars and we found a \$3000 Pontiac Grand Prix SE from 1999. It was perfect! After only two weeks in the US, we had become truly American. We didn't walk anywhere after that.

Ruben's job

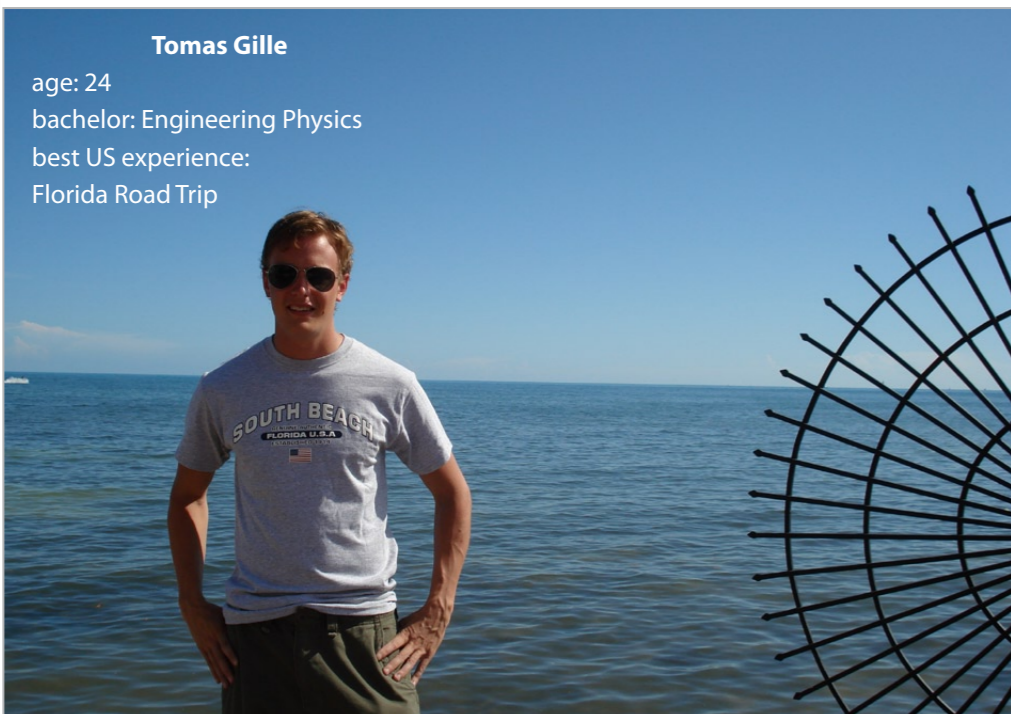
During my eight weeks as an intern I primarily worked with simulations for the "VLBI system of tomorrow", VLBI 2010. The main difference between the systems

is the antennas. They will be smaller, about 12 meters in diameters compared to around generally 20 meters of today's antennas. This will increase their slew rate which leads to more observations per unit time can be made. More data enhances the accuracy of the whole VLBI technique and smaller errors will be possible. The total number of stations which will be included in the new network is not yet determined, it depends partly on what countries that purchases new antennas.

In order to calculate the accurate delay,



Julius, Tomas and Mikael taking the ferry around Manhattan



Tomas Gille

age: 24
 bachelor: Engineering Physics
 best US experience:
 Florida Road Trip

Tomas in Key West, Florida

a lot of different environmental parameters have to be taken into account. Some of these parameters cannot be measured so they have to be estimated by different types of models. A big part of my work was to do simulations in order to calculate some of these parameters and examine them as well as the models sensitivity in reference to other measurable parameters.

I primarily worked on four different projects which included the use of C++ programming, calculations in Octave, simulations in Solve, the VLBI analysis software, Excel for various other tasks and UNIX programming and scripting.

The first project I worked on was a study of a certain turbulence model. I looked at the sensitivity of the different parameters in the model. The results of this project along with some other results were posted

as a memo in the V2C memo series, a series of memos which all the people doing simulations for the VLBI 2010 shares with each other, with me as a co-author.

The second project was an analysis of the software Solve, varying three parameters in order to find the optimal combination to minimize the error in the position estimation. This was done for data from three different VLBI schedules for comparison in between.

The aim with the third and fourth projects was to estimate the turbulence structure constant, *c*, from two different theories. The first theory was that it is possible to calculate an estimation of the structure constant from weather data over the refractivity, using relatively simple mathematics. The other theory was that it would be possible to calculate the estimation from GPS-data, using some more advance mathematics.

Tomas' job

VLBI data is very sensitive, and therefore it is always crucial to record all factors that might influence the results, such as weather data and signal delays. My job was to develop software that analyzed all that data. Most of that software already existed in some form, but

they were all in a serious need of an update. One of the reasons for that was that the code the programs were written in was most of the time very cumbersome.

I did all software development in Python, which is a relatively modern, object oriented scripting language. None of the old programs were written in an object oriented programming language, so that was a huge benefit of my programs.

Before I came to my internship, I had only looked at Python briefly. But since I had some experience with other object oriented programming languages, the transition was rather easy. For my first week, I mostly played around with

the language to make myself more comfortable with it. My first real project was to examine phase and amplitude of the signals from VLBI experiments in real time. If the phase and amplitude varies too much, the VLBI data might be corrupt in some way. My program mainly used already existing frameworks, but I added a graphical interface to it.

My second project was a lot bigger. The assignment was to rewrite an old program that plotted all kinds of data from VLBI log files. That program was actually written by another CETAC student a couple years earlier. It was a program that was widely used in the VLBI community, but it was missing some features, and it was very hard to add them since the code was hard to read and altogether difficult to manage. So I did a complete rewrite of the plotting program in Python and added many features. One of the challenges was to make the new program as similar to the old program as possible. Also, it was important to make it as general in terms of user input as possible, since log file structures may vary between different VLBI stations.

All in all, it has been very rewarding working with NVI and the geodesy department at Goddard this summer, both as an international and professional experience.



Key West is only 90 miles north of Cuba

Florida road trip

In the first week of August, we took a week off to take a road trip to Florida. With almost no planning, we packed our car and started the 800 mile long trip to Daytona Beach, Florida, which would be our first stop. On Sunday morning, we arrived. Daytona is mostly famous for its car races, but in the middle of the summer, there aren't any, so that it was off season was quite the understatement. Anyhow, it was extremely refreshing to take a swim in the ocean after a day and a half in the car. Also, in Daytona Beach, the sand is so well packed that one can actually drive

like we almost had an obligation to go there. Unfortunately, it was basically just a tourist trap.

Ft. Lauderdale was much more of a "real city". Even though it was only a couple of hours south of Daytona, the water was several degrees warmer. We stayed in Ft. Lauderdale for two nights.

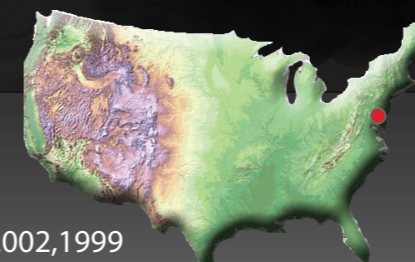
Next, we went for Miami Beach! Miami is quite astonishing with its skyline of tall bank buildings and miles of white beaches. South Beach is the trendier part of Miami Beach, so obviously that's where we



Ruben next to our car in Daytona Beach

NVI Inc.

employees: ~20
 also in CETAC: 2005,2002,1999
 location: Greenbelt, WDC
 web: www.nviinc.com



on the beach (without any fancy all wheel drive). We spent the night in a \$30-motell that looked like it was straight out of a CSI murder scene.

The morning after we continued our trip further down south. The goal was Ft. Lauderdale, a town most famous as a spring break destination. On the way down, we stopped by Kennedy space center. Working at NASA and all, it seemed

headed. The drawback is of course that it's sometimes ridiculously expensive. However, we managed to find a youth hostel that was only a couple of bucks a night. Miami was quite an experience, with both very nice beaches and awesome night life.

Our last stop in Florida was Key West, Hemingway's place of residence for 9 years. Key West is the southernmost point of continental US, and is just 90 miles north of Cuba.

Ruben Sharma

age: 24
 bachelor: Engineering Physics
 best US experience:
 Florida Road Trip

After 2 very nice days in Key West, we started the 1,200 mile long trip back to Maryland. It had been a wonderful experience. We had driven through Virginia, North Carolina, South Carolina, Georgia and Florida, and in total, we had driven more than 2,500 miles. Our beloved Pon-

tiac had served us well once more.

Our summer has been a great experience for both of us. We have both received an invaluable experience working with scientists and putting our engineering skills to the test. Also, it has been great experiencing another country in the way we did. We had seen both million people cities, small towns, college towns, beaches and much more.

When writing this, Ruben just started his master's program in engineering mathematics. Tomas is still on his internship, and will be until the end of the year. After that, he will also return to Chalmers.

Programming drivers in upstate New York

After NYC I left towards Ithaca, NY, which is a small town approximately half-way to Toronto. It's a beautiful university city where more than half of the population is students. Here I had eight weeks in front of me and I didn't know at all what to expect.

I arrived in Ithaca on a Friday, found my way to the apartment where I was going to live during the summer. It was a small room in an old hospital with shared kitchen, gym and TV-lounge with about 70 others. Before I knew it, I met one of my neighbors who introduced me to her other friends at 115 Quarry St. It was great living in such a complex, always finding someone you know just by stepping out the door. My neighbors had origin from Vietnam, North Korea, England, Scotland, Colombia, China and a bunch of states in USA. Before I got to know them, I was by myself in a new town and my first weekend in Ithaca turned out to have a little unexpected outcome.

It was Saturday morning, Sweden played against Spain in the European Soccer Championship. I thought I maybe can find some others also interested in the game. When asking for directions to Collegetown I apparently asked the wrong lady. After one hour walking the wrong way I ended up hitchhiking for the first time in my life. I've heard it is dangerous, but I thought, if someone wants to rob me, they could do that whether I'm pointing with my thumb or not. So I was walking in the rain, a hot day with shorts and a Swedish soccer T-shirt, size XL, a little embarrassed with my thumb point-



Me and my friends from "The Last Great American Road Trip", Nevada desert

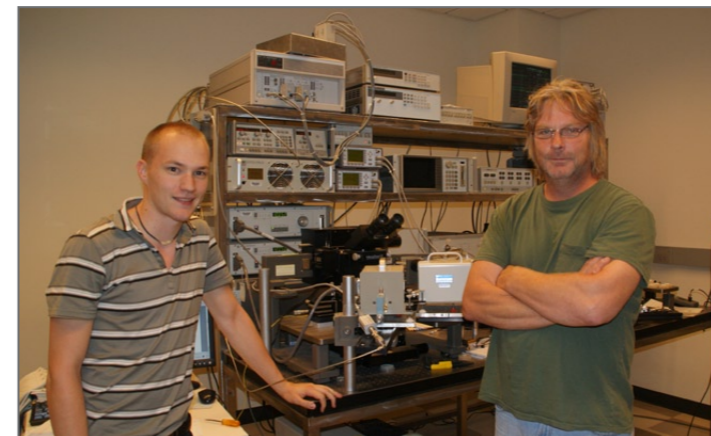
The summer started off in New York City where those of us from Cetac spent almost a week together trying to decide what to do next, choosing from a lot of exciting alternatives. It took a while to really enjoy this big, crowded, extremely trafficked city but after visiting Rockefeller Center, some huge stores, blues clubs, comedy clubs and Broadway musicals, it wasn't so hard anymore.

ing in the air. A few cars passed by and after a while one stopped. Ben Scott, a 27 years old friendly looking man picked me up. He told me I wasn't even in Ithaca anymore, turned around and drove me back. At least that's what I thought.

I told him that I wasn't from town, didn't know anyone in town, had missed more than half of the game and didn't have any plans for the evening. When he heard that, he tried to convince me to go to his father's 50th party out in the country half an hour from Ithaca. "Once in a lifetime", as a motto, has been the easiest way to decide things this summer, starting here. So he turned around once again and drove to his parents home. I ended up meeting the nicest people, in the most beautiful neighborhood on a great party. There I was introduced as a Swedish hitchhiker, found on road 79. After spending the night in their camper and another wonderful day hunting coyotes and picking

mushrooms, it was soon Sunday evening and time to get a ride home and prepare for work.

At Cornell I was greeted by professor Shealy's assistant Jamie who helped me find my way to his office with the last words before she left me: "You will survive". Professor Shealy told me with his loud voice what my part in the project would be during the summer. My task was to write drivers to control tuners that were needed to do microwave measurements. Shealy's group was working on developing transistors made for generating microwave power. All the measurement equipment is made for a 50ohm environment but the transistors are not matched for 50ohm. When the impedance isn't matched a lot of the signal is reflected, which causes an unwanted loss. In order to cease this effect, tuners are used. They consist of a probe that can be moved along a slider and be extracted



At work together with professor Richard Shealy

from the slider. When changing the slider positions, the phase of the impedance is changed and the extraction affects the altitude. Motors move the probe and these needs to be controlled via Agilent IC-CAP, a microwave measurement software. My task was to write drivers to those instruments for IC-CAP in C++. The instruments were communicating with the computer via GPIB, an interface developed by HP.

According to the IC-CAP reference manual, it was recommended to have one year of C programming experience, with IC-CAP and the instruments. The last qualification was "A willingness to understand how the different functions, called during a measurement, work". At least I could check off that one. It was tough in the beginning relying only on myself with no one to ask. I was the first person there that had tried to write those drivers. It took a couple of weeks before I was done with the tuner drivers. After that, drivers for three more instruments were needed. By the end of the summer, eight weeks had passed and drivers for all necessary instruments were written and ready to be used. Programming guides and user guides were made as well.

The job was very self-dependent. Maybe it wasn't the most exciting way to work, but a great experience for me who seldom choose to work alone.

When I wasn't working I hung out with my neighbors or visited Ben Scotts' family outside of Ithaca. We were swimming in the gorges, driving four-wheeler, barbecuing, went to a renaissance festival and a lot more. I also bought a unicycle to get around in town, which turned out to be a great way to get to talk to a lot of people. I also did a trip with my parents to Niagara Falls

and took a ride share to Boston to visit Oscar, Frida and Andreas from CETAC for Independence Day. Before it was time to go home I had some extra weeks off to experience other parts of USA. For a start I traveled around with my girlfriend for a little more than a week, exploring more of New York and Washington DC. In Washington we stayed with a kind family from Sweden I met up in Niagara Falls. DC was a beautiful much more relaxed and different from NYC than I had expected.

My girlfriend had to go home to Sweden. After leaving her at the Philadelphia airport, I checked out Philadelphia for a couple of days more. The unicycle helped me find friends both in Philly and Atlantic City, which I visited later.

After Atlantic City I didn't know where to go. My plan from the beginning was to go south, towards Florida. But I found something that sounded more interesting "The Last Great American Road Trip". It was a bus trip that went from Nashville to the east coast, through America to the west coast and then back again. I thought: "Why not" and that I could join them to Chicago. While in Chicago I was



Ben Scott and his family's beautiful home which they call "Schottland Yard"

and took a ride share to Boston to visit Oscar, Frida and Andreas from CETAC for Independence Day.

Before it was time to go home I had some extra weeks off to

to the Nevada desert. Here my friends visited an arts festival but I needed to catch a flight home. My last problem was now to find a ride 110 miles to Reno Airport. I spent a couple of hours with a sign that said that I needed a ride to Reno. Suddenly a man came and asked if I could drive his car. I completed the last part of the road trip alone in some friendly strangers car and finally I was on a plane towards Gothenburg.

It has been an amazing summer. There are a lot of people I would like to thank: everyone that helped us from CETAC before the summer; Shealy, Kat and the others in Shealy's group at Cornell University; Ben and his great family at Scotland Yard; my neighbors at Quarry St.; the Mopeople at the Moroadtrip; everyone else I met during this summer, making it just beyond all expectations.

Gustav Josefsson

age: 23
bachelor: Electrical Engineering
best US experience:
Hitchhiking in Ithaca, trying to find Collegetown

I will definitely go back to the US again, maybe to work at Cornell writing drivers for another group, maybe to just travel in a completely different part of the US. Thank you for reading my report. I would love to tell you more!

Cornell Uni.

employees: 14 000
Also in CETAC 1995-2006
location: Ithaca, NY
web: www.cornell.edu



convinced to join them even further out west



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Åse Johnson, kundservicechef, Månadens Värdegrundare mars 2007

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Days in the Bay

When I boarded the plane on the early morning of June 8th I had the feeling that something was over, that a great mission was accomplished. All the work during the last year by committed people to arrange internships for devoted students at Chalmers was finally done. I was now facing the easy part: the internship. There is a saying that goes: it's the journey towards a destination that is the essential. That morning I thought I had reached my destination, but the journey was only beginning

I entered the U.S. through the borders in Newark, in the middle of a New York City heat wave. The taxi from the airport to Manhattan had the windows rolled all the way down and even though it was driving fast the warm air burned our pale Swedish faces as we traveled towards the skyscraper skyline. We had arranged with rooms at Chelsea Hostel on 29th and 8th and I am glad I have had better luck since, because on this day, the warmest of days, Tomas and I were given a room with a broken air conditioner. We fought a while over who were to sleep closest to the wall. I can't remember who won, I don't even think it mattered. That night might have been the warmest and sweatiest night of my life.

The following days in NYC were beautiful. We spent a lot of time sightseeing, spent some time drinking beer and hanging out with the rest of CETAC and USA STP. We met Tatiana and Jean from ASF (the foundation that made it possible for all of us to come here). We were sweating in Central Park and cooling off at Macy's. As the days passed, my expectations grew and finally, one early Thursday morning, Julius and I took the subway to Kennedy International where we boarded the plane towards California: The Golden State. And we found it!

Julius was going to work in San José and my office was located in Mountain View, so we had already decided to share



Me outside my office in Palo Alto

an apartment with Sebastian, who was to arrive a couple of days later and work in Palo Alto. We found a two bedroom apartment with a pool, spa and a gym for the standard price of \$2000 per month. After that we had a couple of days to get familiar with the region, so we rented a car and spent the days driving around in the bay

area, checking out San Francisco, sleeping wherever we found a cheap Motel, and if we didn't our grey Toyota Corolla was a perfect substitute.

All of a sudden came Monday, the first day of work. Julius, Sebastian and I had already looked up our offices and made up



Me at the Rock, in front of the Bay Bridge and San Francisco

AuSIM Inc.



employees: ~5
 also in CETAC: 2000,2006
 location: Palo Alto, California
 web: www.ausim3d.com

a schedule: breakfast at Starbucks, drop Sebastian off, drop me off and then Julius would drive down to San José.

When we arrived at the office in Mountain View it was locked and not a soul in sight. After waiting for an hour, my supervisor Mr. Joel Stockman arrived in his red Volvo. He had apparently sent me an e-mail explaining we would meet by their other office in Palo Alto and merely happened to come by Mountain View to pick up some keys.

He gave me a ride back to the Palo Alto office where I met the man in charge, Mr. William Chapin and two other interns, Jeff and Andy. I was set up with my workspace consisting of a computer and some exclusive audio devices. It was already lunch and we spent it barbecuing with the Sennheiser crew from the office above. Then we headed back to Mountain View. It seemed I would not be given a soft introduction; instead I was put to work immediately, assigned to calibrate an audio measurement system designed by AuSIM.

AuSIM is a small company operating in the South Bay area (part of Silicon Valley). They develop hardware and software solutions for audio measurement and 3D audio simulation. One of their major systems was partly developed by CETAC alumnus Johan Gustavsson, who apparently had a very good reputation among both the AuSIM and Sennheiser staff, so I had a lot to live up to.

I spent my first weeks calibrating the measurement system and designing/developing a GUI for a multi channel player. I had a couple of own ideas about the existing console application and how to smoothly make it work for other audio protocols than ASIO, so I suggested I would develop a common interface to implement for the different protocols

and then design my application independent of which protocol I wrote it for. The suggestion was appreciated and I started coding my first own project. This interface has now become my main area of expertise and I am currently redesigning and improving a number of existing applications to support it.

I quickly realized that Americans truly love abbreviations. And that I'd better learn what (for example) RME, HDSP, ITD, EQF, FPGA, ABP, VBAP and ASIO stood for. Today I have gotten familiar with most of them, but there are still moments when I am glad Wikipedia is only a couple of mouse clicks away. I have finished a number of projects since I came here and have always been happy with the results. I feel these months have made me grow as an engineer, getting the practical experience I would not get in Sweden. One phenomenon I really appreciate when working in the technology center of the world is that everyone is extremely educated and you will not be surprised if you're discussing calibration methods with a person you will later find out is a professor at Stanford University.

Even though most of the people here have PhDs or Masters from Berkeley, Stanford or any other school with a famous, almost intimidating name I feel the education received at Chalmers University of Technology has given me the foundation needed to work in an international, competitive environment, which I am grateful for.



Skydiving over California

A short summary of the current situation is that September has just begun, the weather is still great, I'm lying by the pool, I passed my driver's license exam last week, I just got home from a YSC (there I go) party by Clear Lake, Julius flew home yesterday, Sebastian and I have

Mikael Antonsson

age: 23
 bachelor: Engineering Physics
 best US experience:
 Successfully acting car mechanic when our Ford Taurus broke down in Santa Cruz!

a couple of months left here, and I cannot yet picture myself travelling home. California is awesome, Eureka!



Andreas and Frida at FAST Offices, Boston

A FAST summer in Massachusetts

We arrived at Cutler Lake Corporate Center in Needham at 8.10 am Monday morning on a shuttle bus. The office was empty including the reception. After waiting for some time in the cafeteria we were shown to our fabulous cubicles and introduced to our co-workers at FAST.

FAST, founded in Norway, has spread all around the world in a decade and now expanded to over 20 countries with over 700 employees. It all started in 1997. Within a year or two FAST announced their first alliance and commercialized their first product launch in 1999. In 2003 FAST decided to focus explicitly on Enterprise Search and sold their Internet division. FAST introduced their Enterprise Search Platform (ESP) in 2004, and this is still their leading product; used by Dell, the New York Times and 90% of Yellow Pages websites around the world. In April

2008 Microsoft completed its acquisition of FAST, making FAST a Microsoft Subsidiary. The number of employees drastically grew to 90 000 people, making it part one of the worlds' biggest software companies.

Many people confuse Web Search, like Google, with Enterprise Search, which is something completely different. FAST offers a platform for customers who want to embed high end search into their infrastructure. The enterprise search platform can handle demanding search and information access

challenges and is world leading in its niche.

Working at FAST has been good in many ways. FAST is located in Needham which is a suburb east of Bos-

ton with beautiful scenery, though not easily accessible without a car. Being employed at FAST also implied gym access, which was very appreciated by the both of us, and we ended up spending several days a week there.

You can really notice that FAST cares about their employees. Every month a social event is planned which can be anything from a beach at the office, with chicken wing eating-contests or a family outing with volleyball tournaments.

Also every week FAST treats employees with a fresh fruit basket on Tuesdays, which usually lasted for the rest of the week. Without question Friday is the best day of the week not only since it's almost weekend but also because we received free lunch, which was all too often pizza.

Finally, the best part at FAST beating all good things mentioned above was our co-workers. They made us feel right at home from day one and always offered a helping hand if we needed one. Our time in Boston was definitely improved because of them.

Frida Polheimer

age: 22
bachelor: Software Engineering
best US experience: Visiting the underground Apple Store on 5th avenue in NYC.

Fast, a Microsoft Subsidiary

employees: 750 at Fast
Also in CETAC 2006
location: Boston
web: www.fastsearch.com



were incredibly helpful and kind and we ended up having a great time together.

At work we settled in fairly quickly, with a few opening meetings and some administrative paperwork we got started. My task was to create a web interface for a performance benchmarking tool in a subset of a larger project group. This

the movies or went to the beach when the weather was nice enough. We also made some outings together with my roommates and co-workers.

To all of you that contributed to making my summer one of the most memorable ones I might ever have, I thank you.

Frida Polheimer

Welcome to the land of opportunities, the state of Massachusetts and the city of Boston. This is it. This is where I spent one of the most memorable summers of my life.

Arriving at JFK airport in New York was like entering a giant greenhouse, with a



At Fenway Park watching Boston Red Sox hitting another home run.

temperature of more than 100°F (40°C). However, nothing could bring me down. This was my first time in the US and I found myself getting excited about stereotype things like the yellow school busses, Dunkin's Donuts and Starbucks, things you always see in the movies. The first week, the members of CETAC spent in New York together, before setting off to different parts of the country. During this week we did a whole lot of sightseeing, shopping and a little more sightseeing. This included Times Square, Grand Central Station, Wall Street, Ground Zero, Rockefeller Center and so much more. We also did what every CETAC generation have done since I don't know how long, we visited the American Scandinavian foundation, the foundation that has made this opportunity possible for us.

Four days and a five-hour bus ride later me, Andreas and Oskar arrived in Boston, where the excitement and anticipation was at its peak. I had made housing arrangements before I left Sweden in a four bedroom apartment with three other girls and I was nervous, but I shouldn't have been, I couldn't have gotten better roommates. Angie, Tracey and Caryn

included both design, implementation and testing of the user interface. Not having any previous experience of web programming languages I found the task both challenging and intriguing and by the end of the summer the knowledge I did gain felt very rewarding.

On my spare time in Boston I spent a lot of time with Oskar, Andreas and Jonas. We tried to plan something every week and by the end of the summer we had a long list of things we'd done. Some of the things were going to a red sox game at Fenway, an American football game at Gillette stadium, that by the way can hold 65, 000 people! We also spent midsummer and independence day together, took road trips to IKEA, went sightseeing, went to



Frida on top of Rockefeller center

Andreas Jonsson

When I arrived in Boston, after sitting 5 hours in the well known Fung Wah bus, I was glad that I had fixed a place to live before I flew to New York. The house was perfect for me even if the owner was a bit special.

On Monday morning when I arrived to FAST, after being introduced to some coworkers, my supervisors assigned me my main project. They briefly explained my task, which was to build a tool so it would be easier to tweak their enterprise search platform. During the previous spring semester I had finished my bachelor's thesis and I consider that knowledge very useful because the backend was to be created using Python. Because my internship lasted longer than 6 months, this was only to be one of many projects I would be assigned. Later on, my work tasks became very varied. I had to do everything from small projects that should be done later on the same day to new tools to improve the benchmarking of the enterprise search platform.

The commute to the office took almost 1,5 hours so after a couple of days in Boston I bought my first bike in a second-hand shop. The office was located almost 8 miles from my house so a lot of people at my office thought I was crazy when I wanted to bike to work each day. From



On top of Haleakal, a really amazing view

having a 1,5 hour commute, the bike trip only took around 30 minutes and I also got some exercise.

My bike was very important to me but one day an accident happened when I biked home and all of a sudden I didn't have a working bike anymore. When I arrived at work the next day and told them about the accident, they answered "Did you get hit by a car?!?" but I wasn't injured so it wasn't a big thing for me. At least I got a new bike! Only a couple of weeks after I bought it someone stole it so the rest of the year I biked with an old girl bike over 100 miles each week.

Boston was a perfect city for me because I'm really interested in sports. During my six months I went to a couple of games so I had at least seen one baseball, football, basketball and hockey game. They have huge arenas and the whole game is more like a show than just a game. Because I stayed here a long time I made a couple of trips to the other parts of the U.S as well. The best one was of course the trip to Hawaii where I visited my girlfriend. Hawaii has really amazing nature and is a perfect place to visit when the winter is around the corner. It was the experience of a lifetime to see the sunset above the clouds at 10 000 ft on top of Haleakalā (House of the sun) after a 12 mile hike.

Some other trips I made went to Montreal in Canada during the fall and to Six Flags amusement park in Springfield. Six Flags was really big and had some wonderful roller coasters among with one of the world's greatest roller coaster, Superman - Ride of Steel, with a maximum speed of 73 mph.

Andreas Jonsson

age: 23
bachelor: Software Engineering
best US experience:
When I visited my girlfriend in Hawaii

Finally I would like to say thank you to every one at FAST for the support and for all the fun times we had together. I would especially like to thank Runar Olsen and Thomas Mølbach for being my supervisors, you made my internship possible. After this stay in the U.S., I really recommend anyone who gets the chance to experience the same thing to take it. This was the most interesting summer and fall I have ever had.



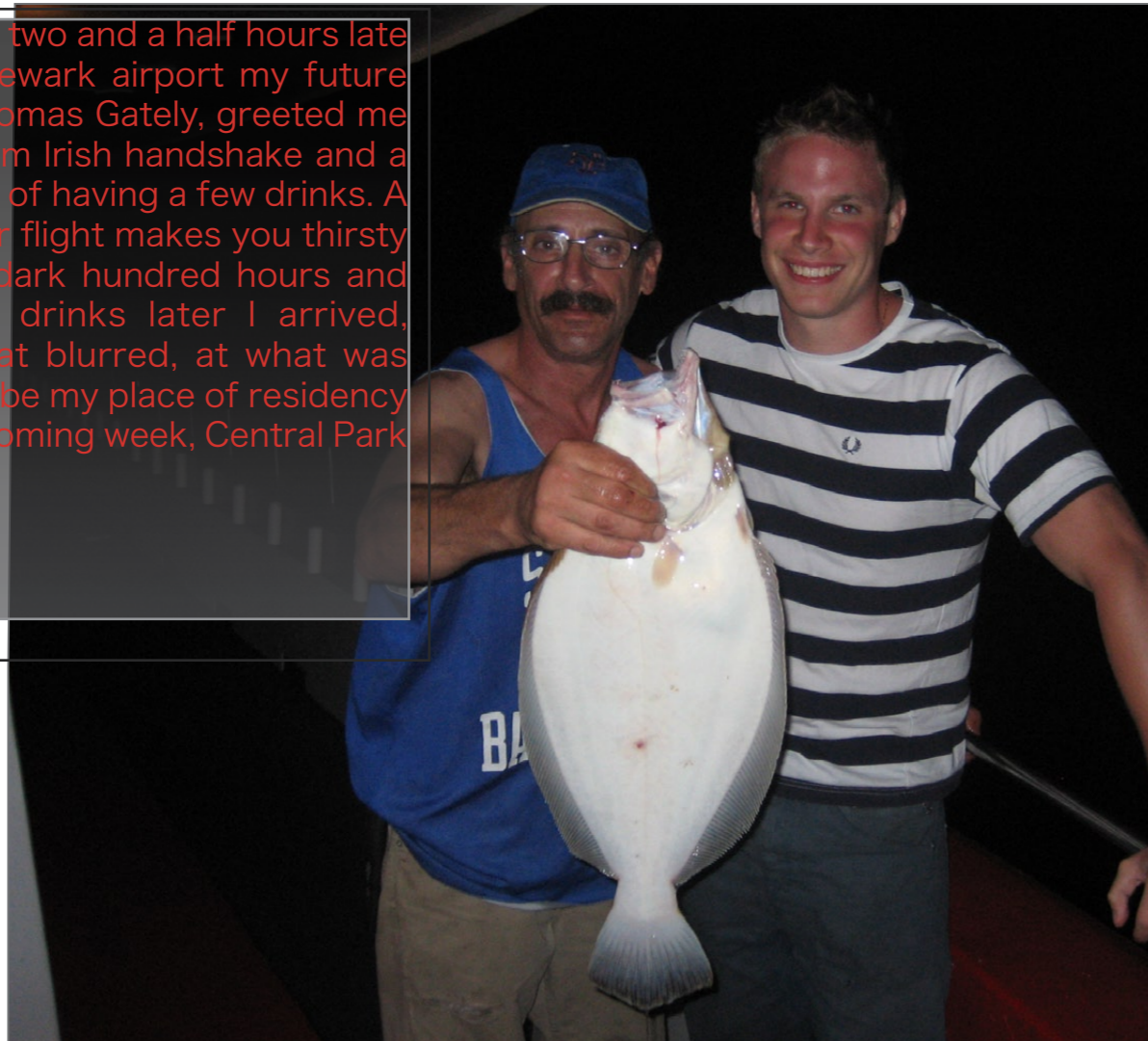
Me and my brother in front of Superman - Ride of Steel.

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Arriving two and a half hours late at the Newark airport my future boss, Thomas Gately, greeted me with a firm Irish handshake and a proposal of having a few drinks. A nine hour flight makes you thirsty so at a dark hundred hours and a lot of drinks later I arrived, somewhat blurred, at what was going to be my place of residency for the coming week, Central Park Hostel.



Me with my catch outside Coney Island, a 22 inch Floundra

Going Green in NYC

Unlike most other CETAC trainees I did not participate much in the regular tourist activities the first week of my stay, because I knew I would have all the time in the world to enjoy New York City's attractions, nightlife and great views. Instead I went looking for a more suitable accommodation for my coming months in the city. My fellow CETAC homeboy, Fredrik Forsberg, and I decided to double the fun and split the costs by sharing an apartment together. Our first apartment (of two) was located in Woodside, Queens, a neighborhood just 20 minutes away from Manhattan and 10 minutes away from Jamaica (where 50 Cent grew up). The neighbourhood was packed with Asians, Mexicans and Irish restaurants and pubs. From here we could easily commute to the great beaches of Long Island, where we came to spend most of our Saturday

and Sunday mornings working on our "grade A" surfer tans.

Green Power Solutions Inc., is a small company with only 5 employees that provides system designs and installations for renewable energy systems, such as solar photovoltaic, solar thermal, geothermal and small vertical axis windmills. Although my internship would mainly be focused on the first two. After a brief introduction of the company, its products, services and personnel I had to start reading a lot of material on how solar systems are designed and installed and the business administration surrounding it. That didn't just open my eyes to a whole new thinking about implementing sustainable energy solutions in residential homes as well as in commercial entities, but also taught me a lot of good lessons

on how small businesses work. After a couple of weeks another intern and now dear friend, Steve Swern, from the neighboring state of New Jersey joined me at work with pretty much the same tasks. Besides a lot of reading, CAD drawing and office work, I got the opportunity to learn the technologies and how to handle customer relations in a hands-on manner from the initial planning phase until the finished installation. Because of my vastly different job assignments I got to see all the boroughs of New York and also neighboring areas such as New Jersey and Long Island from a non-tourist perspective, with Thomas as my dedicated guide. On our tours to customers and prospects I saw the most amazing residential homes, looking like royal European castles, as well as old worn out apartment buildings in not so wealthy areas. What they

had in common was a concern about the environment and rising prices of energy. The concept of making private homes and commercial buildings and factories self-sustained through smart building design and renewable energy systems really appeals to me and is something I am going to bring with me back to Sweden.

Mid July me, Steve and Fredrik decided to visit Thomas Gille and Ruben Sharma (see page 14) in College Park, Maryland, just outside Washington DC. We made the four hour drive from New York in Steve's super futuristic car from the 80's that had automatic seat belts. We arrived in Maryland just in time for the party to get started. I woke up the next day as one happy camper eager to see Washington and the White House. As we walked through Washington all I could think of was all the movies that show the monuments and the White House. It was truly amazing to see in real life.

Later on back in NY Fredrik and I spared no effort in exploring the nightlife. We went to nightclubs, comedy clubs, bars, and usually on Sunday evenings to the cinemas in Times Square. During one of these nighttime exercises at a bar me and Fredrik were actually in the middle of a drive-by shooting, followed up by an indignant civil cop running in to the bar with his badge in the air shouting "does anybody bleed in here?!". Fortunately nobody got hurt; all the bullets went in to the brick wall. Unfortunately, after a short interrogation, we had to go to another bar to continue drinking. Sometimes life's harsh. We woke up the next morning feeling like real New Yorkers and packed our gear for the beach.

Although it may sound strange after the above experience, but what strikes me the most is how safe you feel and how polite and helpful everybody in New York is. In my opinion the most charming thing about the city is its huge diversity of friendly people and of course watching its magnificent skyline when it's Miller time. An elated yellow cab driver explained it to me in an understandable way by shouting cheerfully and repeatedly for 20 blocks; "New York's for everybody man, New York's for everybody!". I totally agree.

After two months the tenancy agreement for our apartment in Queens had expired. Now Fredrik and I wanted to experience

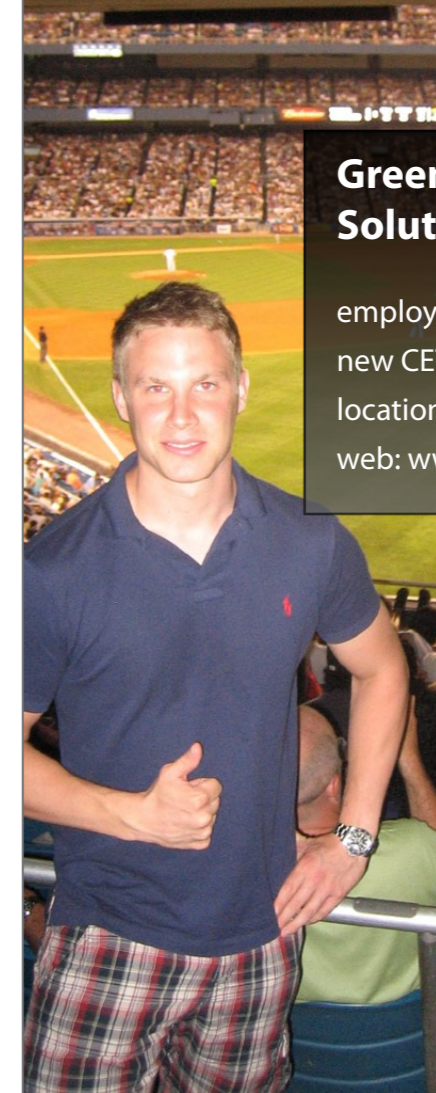
Erik Stani v slaus Jakubowski

age: 23

bachelor: Engineering Physics

Best US experience:

Surviving a drive-by shooting



Me at Yankee Stadium

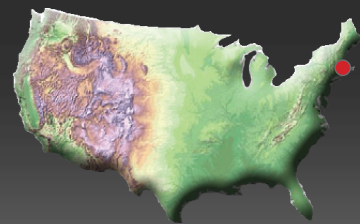
Green Power Solutions

employees: 5

new CETAC employer

location: New York City

web: www.greenpowersolutionsinc.com



another part of NY, Brooklyn. Without further ado we went back to craigslist and searched for a place to live. We found our new home in Bushwick, just under the border of Queens, a fairly calm area apart from fancy cars driving around with their stereos on 300 dB making ambient vehicles' alarms go off.

The last week of my stay I am planning to go to Governor country; Sunny Cali-

fornia, to visit the chairman of CETAC, Mikael Antonsson and member Sebastian Rehnby (see pages 22 and 40). It will not only be a week of pleasures, rum'n'coke and sunbathing but also an opportunity of seeing some of the world's largest solar installations. For me as a newly converted environmentalist it's going to be amazing to see these sites.

So far my time in America has been a great experience and I will not hesitate to come back if my services are needed. I also want to take the opportunity to thank my fellow colleagues at Green Power Solutions, its sub contractors and the American Scandinavian Foundation for the help and guidance they have given me. Thank you all very much!



From the left; Fredrik, Steve and Me after a few pints



Me, Brian and Mayur in front of the office

Enlightened in Boston

After I got my luggage I stepped into one of the many famous yellow cabs, unfortunately this one was without AC. The taxi brought me to my hostel for a refreshing shower and the adventure could begin. Together with the rest of CETAC:s members I got a taste of the enormous selection of sights that Manhattan has to offer. The hostel was located right by Central Park on the Upper West Side, but I didn't spend much time in the dorm room. Instead I tried to overcome my jet lag and spend as much time as possible in the city that never sleeps. Apart from just ordinary sightseeing I got to go on a boat trip around Manhattan, see live blues at B. B. King's restaurant and watch an impressive and terrifying Phantom of the Opera on Broadway. It was a great start of the summer.

After four nights in New York city I got on the Fung Wa bus that went 215 miles to the northeast with the destination of Boston, MA. I had only two days earlier come in contact with two guys in Brighton, just outside of Boston, who needed a third roommate in their beautiful house. This suited me perfectly and just hours after arriving with the bus, I made myself at home in my new room. The house also contained Otis, a cute and crazy miniature Schnauzer who always kept me company when my other roommates were away.

Brighton is a nice and quiet part of Boston and a great place to live. You can find everything you need in terms of grocery stores and cafés and with easy access to the city centre. Once settled down I started exploring the city together with

After spending a lot of time on the phone last year, calling companies and promoting the wonderful Trainee-Report, one day in early June of 2008 I finally got my reward. I landed at Newark Airport outside New York, on a 40°C hot summer day. This was my second visit to the U.S but my first on the East Coast and I was really excited!

Frida and Andreas from CETAC and also Jonas, another Chalmers student working in Boston for the summer.

The main reason for my trip to Boston was work and precisely one week after arriving in the U.S. I started my internship at Sunnex Inc. On my first day, my boss Brian Jacobson, the Operations Manager, came and picked me up in his car. The rest of the summer I drove my own car that Sunnex provided me with, which I greatly appreciated since it made many nice road trips possible.

Sunnex has three kinds of products that they produce and manufacture. These are medical lights for hospitals, task lights and machine mounts for industries. My assignment during the summer was to assist the engineer Mayur Pangrekar on different problems. The main task was to make 3D-drawings of their products I the CAD-software SolidWorks. I had no prior experience from this so I had to learn along the way and by the end of the summer, I felt pretty confident in the area. The drawings could for example be of single parts or of complete lights, depending on who it was for. Some of them was to be used by Sunnex in the production and others were sent to vendors or costumers. On many tasks there were some product development involved as well, such as small changes in the design that would make the production more cost effective and more profitable for the company. It felt great but also a bit scary the first time Mayur told me that the drawing

Oscar Karlsson

age: 23
bachelor: Engineering Physics
best US experience:
"Eating lobster sallad for lunch on a weekend roadtrip with my visiting girlfriend"

I was working on would be sold to a costumer the next day.

Other examples of tasks I worked with was listing all chemicals used in the shop and collecting safety data sheets on them, doing different light output measurements or improve the mobility on one of the lamp arms by testing different types of washers. To sum it up, my two months at Sunnex contained a great variety of assignments and all of them gave me new and valuable knowledge. For the first time, I got a feeling for what it's like to work as an engineer and I learned a lot more than just SolidWorks.

But this summer was much more than just work and to return to the surrounding area, Boston truly is a great city to live in. It is one of the oldest in the country and in my opinion, also one of the nicest. There are museums, restaurants, beaches and shopping malls and, because of the great amount of universities in the area, plenty of student friendly bars. Boston has about 600 000 inhabitants and it keeps a cosy small town feeling. It is located right by the Atlantic Ocean and the this is very apparent, not least by all the affordable lobsters served at restaurants around the city. There is a distinct European heritage, especially in the Irish quarters and in little Italy, which gives the city a good mix of people and a nice atmosphere.

I experienced something new every weekend, often together with my three Swedish friends in the city. I have many great memories, among them celebrating holidays such as Swedish midsummer with traditional herring from IKEA and Independence Day with a barbecue in my backyard and a magnificent firework show by the river. We also got to see both the Boston Red Sox play



My PT-Cruiser

baseball and the New England Patriots play football while eating hot dogs in the nose-bleed section. Unfortunately both teams lost their games but they were cool experiences regardless.

The best part of the summer was when my girlfriend Amelie came to visit me for the last two weeks. Even though I was working during the weekdays we had time to explore the city in the afternoons and on the weekends. We also did a road trip with my car down to Newport, Rhode Island. That is a beautiful town located right by the sea and it houses great beaches, famous mansions and superb restaurants on the piers. Newport is just one of many places in the Boston area worth seeing and that is one of the reasons I want to go back soon.

Sunnex Inc.

employees: ~20
also in CETAC: 2006,2007
location: Boston
web: www.sunnexonline.com



This summer has been one of the best, and certainly most worthwhile, in my life. You learn a lot more than just a job by working abroad. You have to find somewhere to live, you meet new people, face new challenges, see different places and improve your English. And the best thing is, even though it's a bit scary at first, it's a lot of fun!



Andreas, Frida, me and Jonas are ready for football



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AC/DC at RO in SJ, CA, USA



Enjoying the spirit of Yosemite

I'm about to be the **Christopher Columbus** of Cetac 2008 as I spot New York through the window of the Boeing machine. Barely has the plane touched American soil, before a familiar sight appears; the well known blue and yellow colors I just left behind. The facade of IKEA welcomes me to the U.S.A.

Unlike the aforementioned adventurer I had the greatest city in the world to explore. The train took me from Newark into New York City where the heat wave along with the humidity made the street vendors the richest people on Manhattan.

I spent a lot of time just walking around; Times square a Saturday night, Grand central, crossing Brooklyn bridge, China town. The financial district with Wall street and Ground zero, the Statue of Liberty and much more. At my final destination, Silicon valley California, I started to hunt for an apartment together with Mikael while we were waiting for Sebastian to arrive. We settled for a 2-bedroomer that overlooked the park and had access to a pool, tennis courts and a gym. The apartment was in Sunnyvale, in the

I'm on the verge of tears by the time I arrive at the airport since I'm positive I won't have a decent seat, but I do, and relief washes over me in an awesome wave.

south bay area, a few miles north of my company's location in San Jose.

The company I arrived to, RO Associates, had recently moved from their former location in Sunnyvale, the General Manager and Vice President, Mr. Jack McDonnal, had only been on his position for a year and several vacant positions in the company were being filled during my time there. This made my time with RO an interesting journey through the reformation of an organization.

RO Associates is a part of Emrise corporation, a big and growing corporation consisting of companies in different types of electronics businesses. RO Associates designs and manufactures industry leading power conversion modules which are provided to markets worldwide. RO is represented in areas including military applications, telecommunication as well as industrial and other harsh environments. The product catalog contains for

example a complete line of DC-DC converters, AC-DC converters and different accessories to these products. I, myself are not an Electronics Engineer but was expecting electrical engineering for work due to the nature of the company and their former interns work there.

The assignments and projects that was handed to me by Mr. McDonnal have been far from what I first thought mainly would come down to several hours in the lab. Rather than an oscilloscope, I have spent my time in front of a computer.

I spent my first weeks with RO between modifying some drawings for components used in the power supplies, getting a grip on the engineering work done in the lab together with Mr. John Hoop, proof reading revised documents and asking Mr. Mark Passeau questions regarding document control. I also prepared documentation for costumers by testing a product in the lab and presenting the result for the



Good ol' American lunch at the hot dog stand costumers in a proper way and I also made some calculations on testing conditions for a product.

compliance from vendors and manufacturers and some drawings to verify constructions.

My main project though has been handling a so called "variation report" regarding one of RO's power supplies. Most products are certified in safety etc. by different standards through companies and organizations. A certification like this basically requires a product to be described in a report and a field engineer from the certifying company making inspections at the manufacturer to establish compliance with the report. A lot of this documentation was out of date for some of RO's products, this since designs, manufacturers and vendors change more frequently than a product file is being revised. This had led to the so called variation notice when documentation and reality did not comply when an inspection was made. My assignment has been to solve this by providing the inspector with the proper documentation, mostly certificates of



In my cubical at work

Another part of this project was to prevent this from happen again by expanding the buyers database for the components with information on which certificates that had to be enclosed by the vendors and manufacturers in every shipment. This as well as write an updated version of the report describing the product to send the certifying company for revision. The updates that needed to be done regarded component ratings and material specifications of key components, construction details, trace layouts for printed wiring boards along with added or removed components.

Besides work I tried to experience California and U.S.A. as much as possible with my two roomies. We spent midsummer with the Swedish American

Patriotic League in the mountains south of San Jose, we went to Lake Tahoe on 4th of July, college football at Stanford, clubs in San Francisco as well as the gay pride parade. With my father and sister I went to Yosemite enjoying an amazing part of nature. When my girlfriend came to visit, we had an awe-

some time in places like San Francisco and Santa Cruz and driving the beautiful highway one in a red American car down to LA and then to the lights of Las Vegas. A trip that ended in the back of a state troopers Ford,

I take a lot of wisdom with me from my time with RO. The importance of prioritization, involving the right people, being specific in requests, pushing to get things done, providing the right people with the

RO Associates Inc.

employees: 20

has had >20 CETAC-interns

location: San Jose

web: www.roassoc.com



right information and making copies of my work for myself when I pass it along. I have enjoyed learning all of this in a cubical next to the conference room over-

Julius Karlsson

age: 24

bachelor: Engineering Physics

best US experience: New York and road tripping with my girlfriend

hearing/eavesdropping on business decisions and discussions within and among the engineering team, production team, managers, customers, quality engineers and whatever more titles there are within a company!

I want to end this trainee report with special thanks to Mr. Jack McDonnal for hiring and tutoring me, Mr. Mark Passeau for helping me out and teaching me new curse words whenever software caused problems. I want to thank Mr. John Hoop for all the business lunches and for letting me ride in a truck as big as Sweden. I also want to give a special thanks to Dave Cole for the delicious blueberry muffins.

ELEKTRA-programmet stödjer elkraftteknisk forskning

ABB, Elforsk (elföretagens gemensamma forskningsbolag), Banverket och Energimyndigheten driver gemensamt ett elkrafttekniskt forskningsprogram benämnt ELEKTRA. Bakom Elforsk står de elkraftproducerande och elnätdrivande företagen i Sverige, som Vattenfall, E.ON, Fortum, Svenska Kraftnät, Göteborg Energi mfl.

Programmet omfattar forskningsprojekt inom traditionell elkraftteknik såsom forskningsprojekt inom elkrafttekniska material och elmotordrifter, men även inom nya områden med tillämpning av ny kunskap från andra områden, till exempel informationsteknologi, bioteknologi, rymdvetenskaper, komplexa system mm.

Programmet finansierar för närvarande ca 35 forskarstuderande på ett antal institutioner på CTH, KTH, LTH, HVV, LTU och Uppsala Universitet. Avsikten är att långsiktigt stärka konkurrenskraften hos elföretag och tillverkande industri, och samverka mellan industri och forskarstuderande stimuleras.

Även för elkraftteknologer!

Programmet beviljar också stipendier för elkraftteknologer för att täcka de merkostnader som uppstår vid examensarbete som genomförs utomlands, speciellt inom det elkrafttekniska området.

Det kommer att behövas fler forskarutbildade inom elbranschen och industrin!

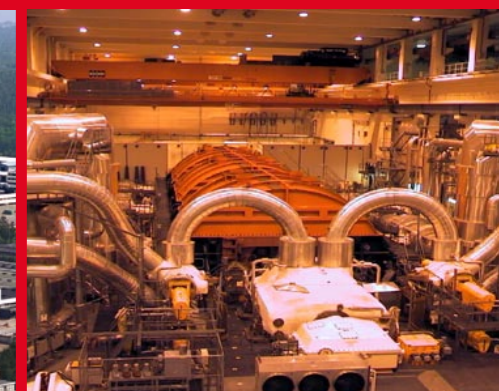
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OKG söker:

Kunnig arbetskraft som vill vara med i en bransch under utveckling

Vi söker dig som har förväntningar på ett utvecklande arbete i en spännande industriell verksamhet. Under de närmaste åren investerar företaget tio miljarder kronor för fortsatt säker drift och anläggningsutveckling vid OKGs kärnkraftverk utanför Oskarshamn. Har du ambitioner att utmana din kompetens och göra karriär inom en expansiv bransch, så ska du kontakta oss – vi är inte främmande för att kunna överträffa dina förväntningar...

OKG är ett dotterbolag inom Europas största privatägda energiföretag, E.ON. OKG är ett av de största företagen i Kalmar län. OKG driver och utvecklar tre kärnreaktorer, som tillsammans svarar för mer än tio procent av landets elförsörjning. Genom säker drift och ständig anläggningsutveckling är det vår ambition att producera koldioxidfri el i våra anläggningar under sextio års tid.

 **okg**
- ett företag i E.ON koncernen

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Four months of New York-excitements!



One of many beautiful days in NY

After a ten hour flight I finally arrived to a tropical New York 32°C and 65% humidity. As I stepped out of the plane I was filled with anticipation and eager to explore one of the greatest cities in the world which was going to be my home for the following four months.

My positive spirit had a minor setback when I found out that my luggage was lost and it may take a couple of days until I would get it back. Never the less, without any heavy bags I went in to Manhattan to meet up with the other members of CETAC. Due to the fact that I was going to stay in NY, my first and most important task was to find housing for the following four months. I found this to be a bit harder than I had anticipated, so without my luggage and somewhere to live I found myself similar to a bag lady.

The following week I roamed the streets of Manhattan staying at hostels in Chelsea, Central Park and Harlem which was a great experience because it allowed me to explore NY in a non-typical fashion. After about a week, my friend Erik, a fellow CETAC member, and I found an

apartment in Woodside, Queens. This is an old Irish neighborhood which is now home to mainly Mexicans and Chinese. We sub-let the apartment from Chairman, an easy going Californian girl who was going on a six week vacation to Paris. Our new apartment was only a stones' throw away from Times Square and right next to the Long island rail road. We found this to be a good location for our commute to work that also offered the possibility to visit the many beaches of Long Island but ultimately gave us a great start to our new lives as New Yorkers.

Due to the fine weather we often spent our weekends at one of the many beaches along the south shore of Long Island, where we could cool off from the heat and hectic city life. In the evening we occasionally went clubbing in the meat

packing district or to the many bars along Bleecker Street and in the Soho area. We also visited the cinema a few times and intentionally chose films set in NYC. Recognizing all the different locations gave us a very surreal feeling because we were living and breathing them every day not as tourists but as "locals". On different occasions we had family and friends come over and visit, thus providing ample opportunities to go



One of many NY locals

sightseeing, visit popular shopping areas as well as discovering nice restaurants. Erik and I spent most of the time with our visitors around Manhattan and also felt more of a desire to see places and areas we may not have before. We embraced these opportunities with open arms and discovered many more exciting things NYC has to offer.

a very hectic work place with limited social interaction with colleagues. However, when I first arrived I was welcomed and introduced to all the members of the staff in the office and in production. To my surprise, they were all very nice and open people. In fact Don, my chief engineer, thought there was a chance that we might be related because his grandfather's last name was Forsberg when he first arrived

task included editing a test program for the different units that the project ALE

Fredrik Carl Forsberg

age: 24
bachelor: Electrical Engineering
best US experience:
Getting to know a good friend,
Erik



My office space

One weekend we took a trip to Washington with Steve, one of Erik's co-workers who studies at Maryland College. We stayed at his rugby fraternity house and spent the evening checking out the college bars and nightclubs. During our stay we went sightseeing which consisted of Lincoln memorial, The White House and The Monuments. A big difference from NY was that everything was very well organized and clean, it was also great to experience their way of living at the university which is a big difference from university life in Sweden with their fraternity and sorority houses.

Most of my time was spent at my host company, Rodale Electronics Inc. They are a company specializing in the development and manufacturing of Electronic Warfare Systems for applications that include air-to-air electronic countermeasures training, ground based, shipboard and airborne radar test and evaluation, as well as tactical self protection. Their customers include the US Department of Defense, and a number of foreign governments. My perception of the working environment in NY was that it might be

in The USA. I asked my parents for some information regarding our family history to see if we might be related. Don also invited me to a barbecue with his relatives who live in New Jersey. The area looked like a typical American town with big gardens and houses. At the barbecue there were many Forsberg descendants, in the background they had hung a Swedish and an American flag. I spoke with many people that day and they all shared the strong desire to learn more about their heritage. After a few stories about our ancestors we could all agree that we weren't in fact related, but it was nice to meet some "Swedish" people.

The work assignments were mainly in computer engineering sector. I was mainly working with a project called ALE 47 which is a countermeasure system. My

47 consisted of. I had a consultant who worked on the same project. Together we solved communication problems between units, and provided hardware and software solutions. Previously, I had contact with the different communication protocols and computer languages in university courses so this was a good practical experience to complement the education.

My internship has been a great experience and it has exceeded my expectations in every way. I gained valuable insight into what it actually means to work as an engineer as well as a good perspective of

Rodale Electronics Inc.

employees: 28
also in CETAC: 2004-2007
location: New York
web: <http://www.rodaleelectronics.com/>



my supervisors role and duties. New York is a city with a great diversity both geographically and culturally which is like nothing that I have ever experienced. I would like to thank all my co-workers at Rodale Electronics Inc for making my stay in NY a fantastic memory.

Virtually Working



My fellow CETACers, Mikael and Julius, arrived a couple of days earlier and had already found us an apartment in a calm residential area in one of the cities in the valley called Sunnyvale. Unfortunately, the airline had lost one of my bags, or as it turned out, another passenger had left with mine. The one I did get contained nothing but a suit and some bed sheets, neither a very good choice for a first day outfit. Fortunately, the airline found my bag and delivered it to me that same night.

VMware's headquarters are located in an adjacent city, called Palo Alto. It is one of the larger cities of the South Bay area. I was supposed to start work on the 16th, so I was a bit worried about being too jet-lagged on my first day. Fortunately, I adapted pretty quickly, and I showed up for orientation at one of VMware's many office buildings on Monday morning.

There were a lot of times I thought I would never get here. Anyone who have ever tried to work in the US would know. The process of obtaining a US visa is both tedious and nerv-wracking. But on the 15th of June, five days after my scheduled arrival to the US, I was finally here. Silicon Valley, the dream of every Computer Engineer, was going to be my home for the next couple of months.

The day started off with the new hire orientation, and we were about 25 people attending. VMware is only 10 years old, but has grown quickly and now has about 6500+ employees. The orientation session consisted of a lot of people presenting slide shows about the company, everything from products to departments. In the afternoon, we were given a ride to our respective offices. I was given a cubicle (what else?) and I was introduced to my future co-workers.

VMware is the market leader in computer virtualization. Their products are based around making it possible to run one or several desktop or server computers in software as "virtual machines", rather than on real hardware. These virtual machines can then be run in parallel on a physical machine. So you can have five Windows machines running on your laptop at the same time rather than just one. Of course there is a lot more to it than that, but that is pretty much what it is all about.

I had been offered a position for six months as a Quality Assurance Intern. The Quality Assurance department, or QA department, is responsible for making sure that any product released by the company meets VMware's quality requirements, and has been properly tested before put in the hands of the customers. The first two months I was doing exactly this, but

two weeks ago I was transferred to the development department. That means less time finding bugs and more time writing them.

Something that I find very interesting, and that I hope I get to work with more in the future, is the dynamics and management of a big software company such as VMware. Everything from everyday routines to development processes, code management, security and the problems related to having thousands of engineers working on the same product and still be able to release something useful in the end. I know that I will benefit from this experience for the rest of my professional career.

Even though work was going to be a big part of my stay, me and my two wingmen Mikael and Julius decided that we wanted to make the most of our spare time as well. There is not exactly a lack of activities in the area, and we have kept that promise for the most part.

Our first weekend here was the Swedish Midsummer holiday and accordingly, we found a club for descendants of Swedish immigrants who celebrate this wonderful holiday every year in the outskirts of San José. We drove far into the California hills, and found a lodge with hundreds of people eating herring and dancing around a maypole. It felt somewhat like a home away from home, and I don't think I have ever celebrated a more Swedish Midsummer that the one here in California.

The weekend after the Midsummer celebration I had started to get to know a couple of Swedish colleagues, who were also interns, who told me about this

employees: 6300+
also in CETAC since 2004
location: Palo Alto
web: www.vmware.com



club called The Young Scandinavians Club. Every third weekend, there is a party at one of the club's lake side lodges, located by the lake "Clear Lake". During these weekends a lot of the Scandinavian people in northern California drive up to the lake with nothing but an inflatable mattress, and spend the weekend sunbathing, swimming, wakeboarding and socializing. We drove up with a couple of friends and stayed for the whole weekend. The weather is one of the things you can really trust, and we ended up having a great time.

Although there are a lot of activities in The Valley, there is always the option of making the 40 minute drive north to San Francisco. San Francisco is an awesome city that has a lot to offer, and it somehow feels a lot like you are back in Europe. The weather is also very different. While we enjoy the clear blue sky and a temperature of about 30 degrees Celsius every day in The South Bay, you better be bringing a jacket if you are going to San Francisco, as the climate is closer to that of Sweden than California. A lot of the people we have met, mostly swedes actually, work in or around the city so there is always a good reason to go there over the weekend. The city centre is quite small and you can pretty much walk everywhere, but the city itself is huge.

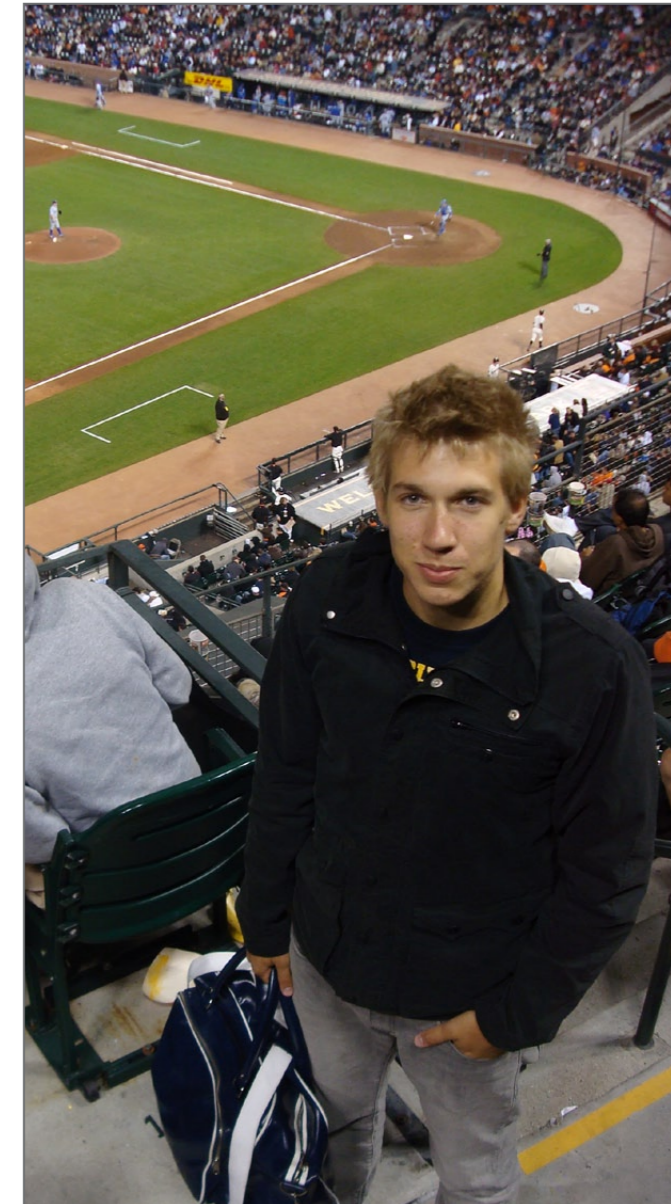


Since we got here we have had a list of things we want to do before we go home. And at the very top of that list was skydiving. It turned

out that a lot of my fellow interns had already jumped, but most of them wanted to do it again. So one weekend we gathered a bunch of our new found friends, and drove a couple of hours north until we arrived at a small worn down airfield. We signed up for a tandem jump each at the front desk, and began the three hour wait before we were finally called to the gear room. We got strapped into our harnesses, and they loaded us up onto a small electric cart. They drove us across the airfield and this tiny plane rolled towards us. My instructor told me that he had made almost 13000 jumps, which felt at least a bit comforting. Once up in the air, at 13000 feet, we got ready to exit the airplane. My instructor, a pretty large bodied man in his forties, pushed us out and we began a couple of seconds of free falling. After the parachute had deployed, I took off my goggles and enjoyed the view of the California countryside. It was a pretty amazing sight. We finally hit the ground and I was a bit shook up, but unable to get the big smile off my face. It was definitely one of the coolest things I have ever done.

As I am writing this, we have been living in California for about two and a half months, and for every day that passes it feels a bit more like home. The best part is probably that since I know I am here for a limited time, I actually get of my ass and go out and find fun things

to do. I am sure I will look back at my time here later on and want to go back, because there are so many things to like



about this place. But for now, I will just keep enjoying life here in California for as long as, and in the best way possible.

Sebastian Rehnby

age: 22
bachelor: Software Engineering
best US experience:
Looking down on California attached only to a piece of fabric at 13000 feet.

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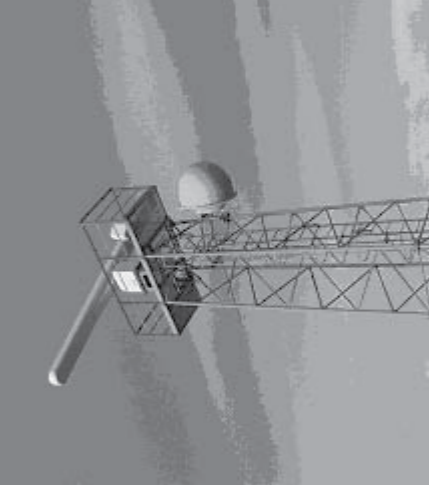
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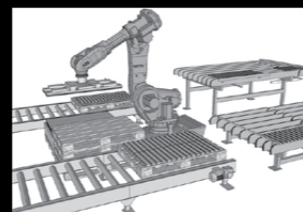
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cetac Alumni

CHALMERS ENGINEERING TRAINEE APPOINTMENT COMMITTEE

Most students work hard to get through all the courses taught at Chalmers, it is tough – and it should be tough. Even so, many Chalmers Alumni witness that while piling up knowledge is important, another aspect of university studies is the possibility to meet fascinating people, realize the value of hard work, and gather up in, or maybe even head, interesting and rewarding organizations.

This is exactly what CETAC's members are doing – they have decided to walk the extra mile; to squeeze something more out from their time at Chalmers than just a fragmented memory of outdated course material. For a whole year, they work to draw together enough funds to help each other getting to America and to find, and get accepted to internships at American high-tech companies. After a year of blood, sweat, and tears, the majority of CETAC's members are rewarded with at least a summer's worth of American work experience – a veritable gold mine for anyone on the brink of starting a career.

As for myself, I recognize the year working with CETAC, and the time spent in North America as equally important as any course ever taught throughout my education. In fact, the people and companies I got to know in America, as well as some of my CETAC friends, have shown to become vital stepping stones when embarking on my own career. I know for a fact that many other Alumni can say the same. No wonder many of CETAC's old members want to stay in touch with each other and to help even more students to become part of the organization.

Aside to being a fruitful platform for socializing and networking between CETAC's many alumni and to govern and conserve CETAC's proud traditions and achievements, a key mission of CETAC Alumni is to constitute an empowering force supporting CETAC. As the organization all the way since 1966 has been one of Chalmers' primary sources of qualified work experience, it is no surprise many of CETAC's earlier members today holds key positions throughout Swedish and American industry. These people, of whom many are members of the alumni network, are integral in helping future generations of CETAC to prosper and grow – just as many generations have done before them.

Marcus Johansson
Chairman of CETAC Alumni



Pictures from the CETAC 40th Anniversary Party which was arranged by CETAC Alumni

The American-Scandinavian Foundation

On June 11th 2008, the Director of Training, Ms. Jean Prahl, and I continued the tradition of hosting members of CETAC and the USA Trainee Committee at Scandinavia House, the Nordic Center in New York, to introduce them to the Exchange Visitor Program and give them some essential information. This rather hectic time of year is my favorite. I finally get to meet the committee members I've been working with and e-mailing for months. Although this year, with the introduction of new regulations governing the Exchange Program requiring us to conduct interviews prior to issuing the paperwork, it was a bit different. The web interviews gave me a chance to catch a glimpse of all committee members before they landed on US soil.

Your arrival in the United States is the culmination of an exhaustive months-long process, during which you raise money, find placements and fill out applications. That's why Jean and I try our best to help you in any way possible. As you may know, every student coming to the United States for an internship needs a visa and that's where we come in. The American-Scandinavian Foundation has been designated by the U.S. Department of State as an Exchange Visitor (J-1 visa) program sponsor. Our job is to make sure that all your assignments meet program requirements. This program helps promote cross-cultural exchange and understanding between the people of Scandinavia and the United States. Through your conduct you show your colleagues and your supervisors that to host a Chalmers University intern is beneficial. You are the unofficial ambassadors of your country.

After the orientation you spread throughout the country in search of valuable professional experience. This experience helps you to evolve not only professionally but personally as well. Most submitted final reports state how much you enjoy and appreciate this experience, how many friends you made and how many new people you met and all the places you visited. I am glad to be a part of this experience.

As always, it's been a pleasure to work with this group. You bring incredible energy and youth to the program. We at the ASF would like to wish you continued success in your future.

Wishing you the best.

Tatiana Pashman



The members of CETAC along with travellers from Chalmers USA STP, meeting up with the foundation in New York

MOBILITY SYSTEMS INC.



Datorernas användbarhet i olika sammanhang ökar alltmer. PER LINDSTRAND beskriver här hur man med hjälp av datasystem kan rationalisera den för många företag så problematiska lagerhållningen.

Ett målmedvetet arbetssökande i trakten kring San Francisco gav resultat om än inte visum förrän två dagar innan avsedatum. Inte med anledning av brist på lämplig elektronikindustri, tätare koncentration av sådan ändå lär knappast finnas, utan snarare på att området drabbats av en hög temporär arbetslöshet bland ingenjörer genom nedskärningar i amerikansk rymd- och försvarsbudget. Ovan omnämnda område sträcker sig cirka åtta svenska mil söderut från San Francisco och innefattar bl.a. Palo Alto, Sunnyvale, Santa Clara och San José, varav den sista, sitt ringa utseende till trots, har en befolkning motsvarande San Franciscos.

Detta, den fria etableringens eldorado, som för inte så länge sedan var vildmark, liknar föga den bild man föreställer sig av ett industriområde. Inga skorstenar och

heller knappast några industribyggnader av konventionellt snitt. Företagen är i regel små med ett hundratal anställda i snitt (undantag är IBM, Lockheed plus några andra kolosser), och deras fabriksbyggnader vanligtvis fyrkantiga tvåvåningshus i modern arkitektur som lika gärna skulle kunna inhysa en restaurant som en relätillverkare.

Mobility Systems Inc. var ett av dessa områdestypiska företag. Såsom namnet antyder sysslar företaget med mobila system, närmare bestämt datastyrda automatiserade lagersystem, applicerbara på exempelvis reservdelslager, skolager etc. Trots blott sextio anställda tillhör företaget de absolut främsta i branschen.

Företaget etablerades på amerikanskt vis 1966 som ett fristående dotterbolag till Raymond Co, en av USA:s större tillver-



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And:

Jean Prah and Tatiana Pashman, Exchange Division, American Scandinavian Foundation
Reijo Palola at ABB Human Resources

CETAC 2007
CETAC 2009
Chalmers USA STP 2008

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The Chairman is Speaking

The trainee report you are holding in your hand is the final product of almost 18 months of hard work. Not only have the members of CETAC 2008 achieved personal goals in school, but they have also worked together towards the common goal of arranging with internships in the U.S.

The preparation work in CETAC before going to the U.S. can roughly be divided into two categories. One category consists of administrative tasks; embassy paper work, host company communication, accounting and more. The other is promoting CETAC for Swedish companies helping us with funding and support. Everyone has handled their responsibilities with great admiration and I am proud to have been a member of our team.

A U.S. internship is a fantastic way of getting the experience countless students feel they lack. Not only will the intern acquire experience in practical work related to his/her area of study, but also the experience of living abroad, having co-workers not speaking the same language, adapting to a new culture and at the same time dealing with new tasks and solving complex problems; all are qualities future employers are looking for in an engineer on a global market.

The last time I can recall I was in a similar situation, calling for my full attention and ability to acclimatize was when I first began my studies as an engineering student at Chalmers University of Technology. The key difference then from now was that I (obviously) had not yet been a student at Chalmers. A cliché description of the engineer is the “problem solver” and my first three years at Chalmers have unquestionably prepared me for becoming one; taking on new projects, cooperating and rapidly adapting to new environments. For that I would like to thank all professors and everyone else at Chalmers.

Additionally I would like to use this opportunity to thank a couple of more people and institutions for making our journey possible. First of all I would like to thank all the American companies bringing CETAC interns to the U.S. I hope CETAC members maintain these first class engineering skills that make you want us to be your employees for



a couple of months every year. I would also like to thank Tatiana and Jean at the American Scandinavian Foundation for helping us with all the paperwork required to enter the United States. I hope you know how grateful we are that you exist. Next, I want to thank all the Swedish companies that unselfishly help us with funding, without you our organization would not survive.

To all my friends in CETAC 2008, thank you for this time we have had together. To all of you in CETAC 2009, good luck with your work, I hope you will make it. To Kim and everyone else in USA 2008 STP, thank you for making the sharing of the room so painless, and for accepting the loss in the volleyball tournament.

Last but not least, to all you students at Engineering Physics, Electrical Engineering, Computer Engineering and Computer Science at Chalmers, take your chance; apply for a CETAC membership or to the board of directors. You are the future, you will not regret it!

Mikael Antonsson, Chairman CETAC 2008

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