TRAINEE REPORT 2014

49th ANNUAL ISSUE

cetac

CHALMERS

Editor's Note

The journey started over a year ago, when students from Engineering Physics, Engineering Mathematics, Electrical Engineering, Software Engineering and Computer Science came together in order to find internships in America for all the members of CETAC - Chalmers Engineering Trainee Appointment Committee. All the students that participated have contributed with a lot of work and effort, but it was well worth the struggle; today we are 17 students spread out in the US on different, but all qualified, internships.

This is the first step of the beginning of our carreers and most of us (probably all of us) are very satisfied with the output so far. Getting an internship in the US by being a member of CETAC gives you not just practical training and experience of a new culture, but also a great network that includes all previous members of CETAC. CETAC was founded in 1966 and so far it has given over 1000 students the opportunity to go abroad and intern for a period of 8 weeks up to twelve months.

This magazine was primarily put together in order to encourage students that are now studying at Chalmers to go on an internship themselves. You will get to read reports from all the members who left Sweden in June 2014. We will tell you about our first experiences, including what we do at work, the cultural differences and things we get to do in our free time. Hopefully the reading will inspire you and hopefully, some of you, will one day become future CETAC members!

Julia Reibring
Editor-in-chief, CETAC 2014

PUBLISHER
ROBIN HAMMARÄNG

EDITOR IN CHIEF
JULIA REIBRING

EDITOR
JENNIFER PANDITHA

COVER PHOTO
TOMAS SELLDÉN

PRINTED BY
ELANDERS

ADDRESS
IT-SEKTIONEN
CHALMERS TEKNISKA HÖGSKOLA
HÖRSALSVÄGEN 6
41296 GÖTEBORG

WEB
WWW.CETAC.SE

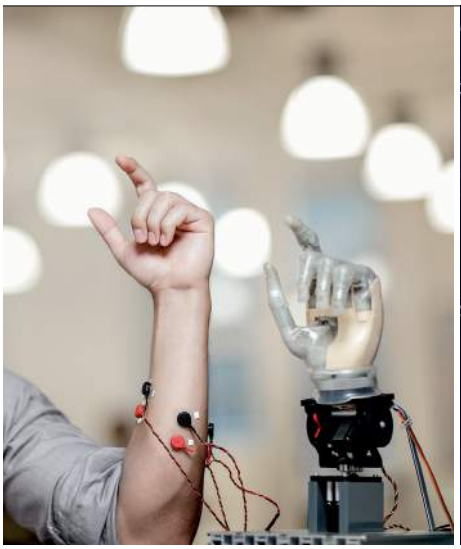
EMAIL
INFO@CETAC.SE

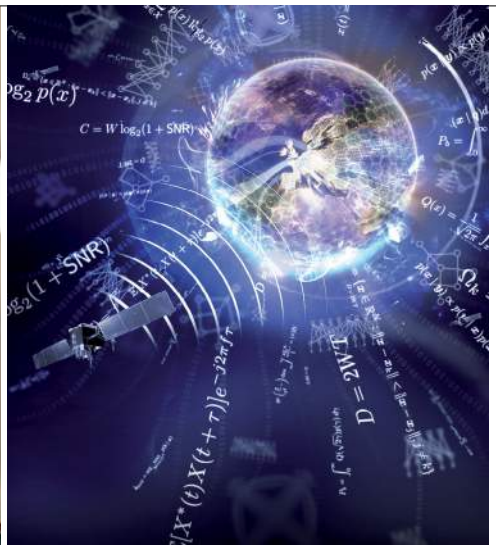
PHONE
+46 708 72 32 97

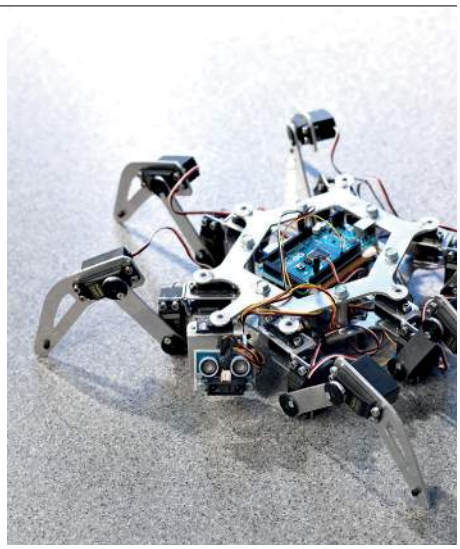
COPIES
1500


THE BOARD OF CETAC 2014


THE MEMBERS OF CETAC 2014







A DEGREE FROM OUR MASTER'S PROGRAMMES AT THE DEPARTMENT OF SIGNALS AND SYSTEMS WILL MAKE A DIFFERENCE

Biomedical Engineering

The programme provides students with in-depth skills to meet the increasing demand for more efficient healthcare systems. Combining design and problem solving skills of engineering with medical and biological science, a new world of possibilities is evolving. Our students gain technical expertise at a level that is very competitive in their future career.

Communication Engineering

Society today is firmly founded on communication systems to support operations in industry, business, transportations, healthcare, leisure, entertainment, power grids, etc. In this programme you learn not only the design, function and limitations of modern communication systems but also the fundamental principles and methods by which such systems, present and future, are designed.

Systems, Control and Mechatronics

We rely on automatic control systems everywhere. Applications span a wide spectrum, from small consumer devices and medical apparatuses to large systems for process and production control. The aim of the programme is to provide a broad systems engineering base, suited to the engineering of complex, computer-controlled products and systems.

Read more about our master's programmes at www.chalmers.se/s2

DEPARTMENT OF SIGNALS AND SYSTEMS

CHALMERS

Table of Contents

Bli medlem i CETAC

CETAC är en ideell förening vars syfte är att ordna praktikplatser i USA för teknologer från E, D, IT, F och TM oavsett ekonomisk bakgrund. Vi kan stoltsera med tidigare arbetsgivare som till exempel NASA, Tibco Spotfire, Siemens, Apple, Intel, Microsoft, VMWare och SUN Microsystems. Praktiken är på minst åtta veckor, men de flesta stannar så länge som ett halvår eller i vissa fall ett helt år! CETAC lägger också stor vikt vid att praktikplatserna är intressanta och kvalificerade ingenjörsarbeten för varje enskild medlem.

Praktiken ger inte bara goda arbetslivserfarenheter men också ett värdefullt kulturellt utbyte. Kulturell förståelse och erfarenhet är något som efterfrågas allt mer i det globaliserade näringslivet. Förbättrade språkkunskaper i engelska är också jätteviktigt då ingenjörers kommunikativa förmåga är av stort värde för företag idag men också att många företag har engelska som koncernspråk.

För att bli medlem i CETAC skall du studera på E, D, IT, F eller TM samt vara svensk medborgare eller ha permanent uppehållstillstånd i Norden. Vid ansökningstillfället måste du även ha 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. Vill du söka en praktikplats till sommaren 2016 så är ansökningstillfället för detta våren 2015. Som medlem jobbar man knappt ett år innan avresa och får chansen att lära känna teknologer från andra sektioner. Missa inte chansen att uppleva ett spännande och lärorikt äventyr!

Om du har några frågor, tveka inte skriva till oss på info@cetac.se eller läsa mer på CETAC.se

Jennifer Panditha och Julia Reibring

Crossing Borders to Achieve Success

Today international experience is of vital importance for highly qualified engineers. As a student at Chalmers University of Technology you have an excellent opportunity to earn this experience already within your education.

Chalmers is an outward looking university focusing on the development of technical solutions needed to create tomorrow's sustainable society. This is achieved by letting environmental questions permeate research as well as teaching. A successful outcome also depends on a well-functioning interplay between many different participants within and outside Chalmers. Our interplay and exchange with industry and business take many forms – internships, projects, work integrated learning to name a few.

Regardless how, it's important to seek solutions across and beyond your boundaries to challenge yourself and others. This viewpoint has in one sense or another characterized Chalmers for centuries, inspired by our founder, William Chalmers. As director of the Swedish East India Company, and for several years their resident representative in China, he recognized the importance of crossing borders to achieve success.

In order to promote our students' opportunities to take part in knowledge and experience exchange we continuously develop different activities and encourage students to participate in a wide variety of international activities. Chalmers students adopt this strategy in the most different ways. Some participate in international seminars, others spend some time abroad in a company or a university. Still others participate in, or even set up, international projects with or without support from industry.

Networks around the world is of great interest and use in all research activities, and of outmost importance when it comes to global issues. In your future role as highly qualified engineer you will be an important part in all forward looking research. Therefore any experience of various cultures, settings and ways of thinking is of great value.

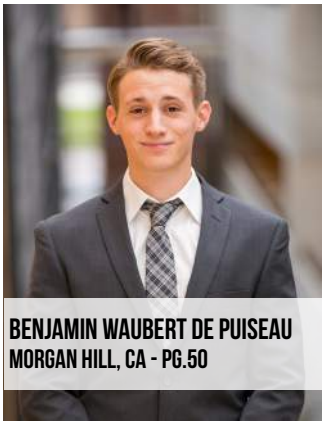
To spend some time in a company in the USA for a few months is in my opinion an excellent way of achieving an international experience and a great complement to your education. A network you build during such a stay is invaluable for the future – professionally as well as in your private life.

Karin Markides
President of Chalmers University of Technology

Meet the Members

ANDREAS MAGNUSSON
SAN FRANSISCO, CA - PG.26

REBECKA JACOBSSON
SAN FRANSISCO, CA - PG.16



BENJAMIN WAUBERT DE PUISEAU
MORGAN HILL, CA - PG.50

DAVID LIDBERG
SUNNYVALE, CA - PG.48

GUSTAV DAVIDSSON
PALO ALTO, CA - PG.42

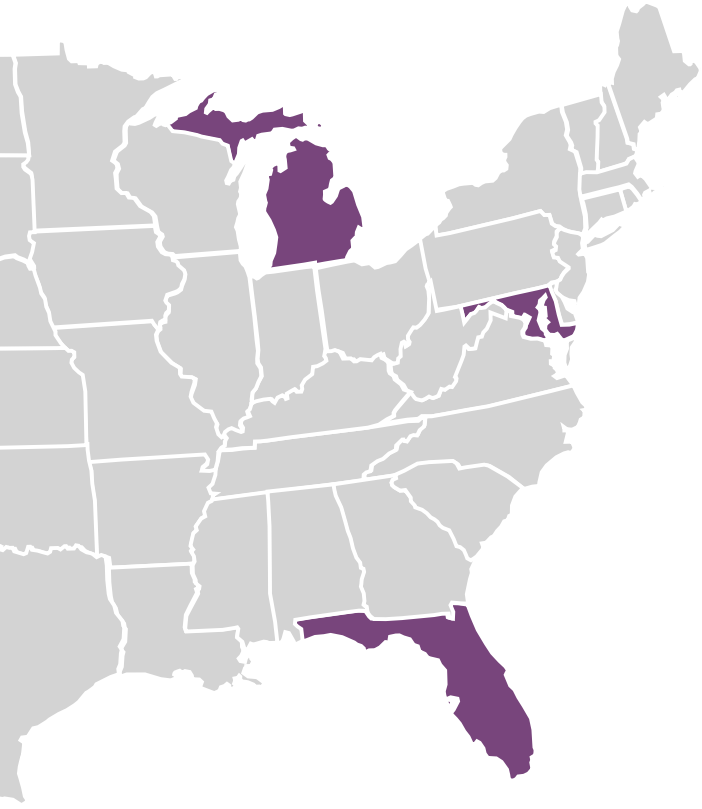
AXEL JOHANSSON
PALO ALTO, CA - PG.42

HENRIK ADOLFSSON
PALO ALTO, CA - PG.42

GABRIEL ANDERSSON
DETROIT, MI - PG.28

LINNEA HESSLOW
GREENBELT, MD - PG.24

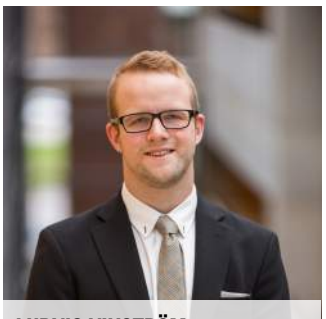
SIMON ANDERSSON
SANTA BARBARA, CA - PG.30



OSKAR KARNBLAD
SAINT AUGUSTINE, FL - PG.32

SEBASTIAN KARLSSON
SAINT AUGUSTINE, FL - PG.32

MADELEINE APPERT
SAN FRANSICO, CA - PG.38



LUDVIG VIKSTRÖM
MOUNTAIN VIEW, CA - PG.40

ROBIN HAMMARÄNG
SAN DIEGO, CA - PG.18

TOMAS SELLDÉN
SAN DIEGO, CA - PG.22

JULIA REIBRING
SAN DIEGO, CA - PG.10

Hållbara lösningar för miljö och hälsa

Kunskaper i kemi och bioteknik är centrala för samhällets fortsatta tillväxt och för att lösa samhällets klimatrelaterade utmaningar. Vid institutionen för Kemi- och bioteknik erbjuder vi utbildning och forskning för hållbar utveckling, förbättrad hälsa och livskvalitet.

Ett yrkesliv inom akademi eller näringsliv?

Med en utbildning i kemi blir du attraktiv inom många branscher i näringslivet. Kompetens inom kemi- och bioteknik behövs för att utveckla miljöanpassade produkter, utveckla nya bränslen och råvaror till industrin, och skapa ren och effektiv produktion. Efter examen kan du till exempel jobba inom livsmedels-, läkemedels- och pappersindustri eller offentlig verksamhet. Eller så väljer du en akademisk karriär och fördjupar dig inom forskningen.

Forskningen vid Chalmers största institution sträcker sig brett inom fältet kemi- och bioteknik. Från grundläggande kemi och biokemi, till tillämpad kemi inom energi och material, vidare till livsvetenskap, bioteknik och kemiteknik. Bredden av ämnen och framgångsrika forskare har gjort det möjligt att sätta samman starka konstellationer, vars forskningsresultat får stor betydelse för individ, samhälle och industri.

Molekyler som lagrar solenergi och tekniklösningar för sjukvården

Ett exempel på framgångsrika forskare är Kasper Moth Poulsen, Docent i polymerteknologi, som söker lösningar för ett hållbart energisystem. Solen som energikälla ger stora möjligheter för detta, och en utmaning är att hitta effektiva lagringsmetoder, för att transportera och spara energi.

Kasper Moth Poulsen har tillsammans med sitt team utvecklat ett system, som lagrar solenergi i kemiska bindningar. Det baseras på tidigare upptäckter av forskare från UC Berkeley i Kalifornien och Kasper med flera har omsatt teorin i praktisk tillämpning.

Ett annat exempel är Elin Esbjörner Winters, forskarassistent i biofysikalisk kemi, som forskar på proteiners beteende inom sjukdomar som Alzheimers, Parkinson och ALS. Hon studerar proteinaggregat, som orsakar skadliga angrepp på nervceller och som återfinns i så kallat plack, i hjärnan hos patienter med Alzheimers sjukdom. Genom att förstå aggregatens reaktioner, strukturer och lokalisering i celler skapar hennes forskning kunskap om hur nervcellernas funktion påverkas.

Laboratoriechef och processingenjör i industrin

Marcus Högberg är utbildad högskoleingenjör i kemiteknik vid Chalmers. I dag arbetar han som laboratoriechef på AkzoNobel, en av världens ledande industrikoncerner. Hans jobb innebär bland annat att göra kvalitetssäkrande analyser av produkter samt miljöanalyser.

En annan alumn är Linda Rudén, som efter sin civilingenjörsexamen i kemiteknik fick jobb som processingenjör på Södra Cell Värö, som tillverkar pappersmassa. Som processingenjör jobbar hon med att lösa och förebygga olika problem, som uppstår i fabriken. Linda arbetar även som energisamordnare, vilket innebär att hon identifierar och kartlägger hur företagets energiförbrukning ser ut och vad man kan göra för att minska den genom energieffektivisering

För mer information om utbildning och forskning inom Kemi- och Bioteknik se www.chalmers.se/chem

SMART CARS WILL SAVE LIVES!

Each year, an estimated 1.3 million people die in road traffic accidents, according to the World Health Organization. Passive safety systems have been successful in decreasing the injury risk in case of an accident, but with the use of modern sensing, signal processing and control technologies the focus is shifting towards helping drivers to avoid collisions in the first place.

At Chalmers department of Signals and Systems, we work with active traffic safety within several different research areas, Communication systems, Mechatronics, Signal processing and Biomedical engineering. As a master's student within one of our three master's programmes Communication Engineering, Biomedical Engineering or Systems, Control and Mechatronics, you will have the opportunity to engage in a thesis within traffic safety. And this is just one of many exciting topics covered in our master's programmes. Read more about them on the page to the left, or at www.chalmers.se/s2.

The number of vehicles is ever increasing around the globe and roads are getting more and more crowded. The slow and unorganized traffic, forces the drivers to constantly change between accelerating and braking. This stressful way of driving causes unnecessary fuel consumption and too many traffic accidents. But we believe that cooperation in traffic, such as road trains and crash prevention, can make a big difference.

Vehicles can predict dangerous traffic situations faster than the driver, and can interact with its surroundings to reduce or prevent accidents. Even if the driver is distracted – the car never is.

Active safety systems usually contain sensors like radars, cameras and lasers that scan the area around the vehicle. When cars communicate with each other and the surrounding infrastructure, we can develop a system that warns the driver if there are queues, pedestrians or road construction, and receive information about when the traffic lights will turn green.

To enable efficient driving, we let communicating vehicles drive in a convoy – to keep the efficient distance between cars, avoid unnecessary braking and choose the best route with regard to the traffic situation.

Technologies that already exist today, give us a hint of the forthcoming autonomous driving capabilities. Some functionality of autonomously-driven cars is already in operation, or being tested on our highways. Connected and networked vehicles will undoubtedly have a positive impact on road safety.

Emergency response

Another important measure to save lives in traffic accidents is to ensure swift treatment of victims. Effective emergency response requires a well-functioning pre-hospital workflow and information exchange, so that the stabilized patient is transported to the hospital without unnecessary delay and the receiving trauma team has a good understanding of the accident, the vital status of the patient, and what possible injuries that can be expected.

The connected smart vehicle can automatically transmit location coordinates when involved in an accident, and establish a voice connection to the emergency call centre. Moreover, using on-board technology, the severity of the accident can be estimated.

Development of decision support algorithms for field triage will help assess the clinical priority level of patients. Patients with occult injuries are at higher risk of being given lower priority, and patients that look and feel fine but still have life-threatening occult injuries have become more common due to the use of effective restraint systems with airbags in modern vehicle fleets. If bleedings could be detected already in the ambulance the time to treatment may be shortened and the clinical outcome improved. ¶

Sun and Fun in San Diego

By Julia Reibring

Every morning, I wake up to the same alarm sound as ever since I started at Chalmers, but my days here cannot be compared to anything I was doing during my last three years at school.

I am living in San Diego, the city known for its many sun hours and perfect climate all year round, which means a lot of days spent at the beach, nice runs by the shore, perfect mangos and avocados, all kinds of outdoor activities, etc. It is an exciting place to be at and my two colleagues Robin and Tomas and I have settled down in an area here called Pacific Beach, which is situated just outside San Diego. Living in Pacific Beach is like living somewhere where you think you would go on vacation. There are several beaches, lots of bars and restaurants and the atmosphere is very laid back; going out to a club at night wearing flip flops is rather the rule than the exception. The population is pretty young and people here seem to enjoy life; well who would not under these conditions?

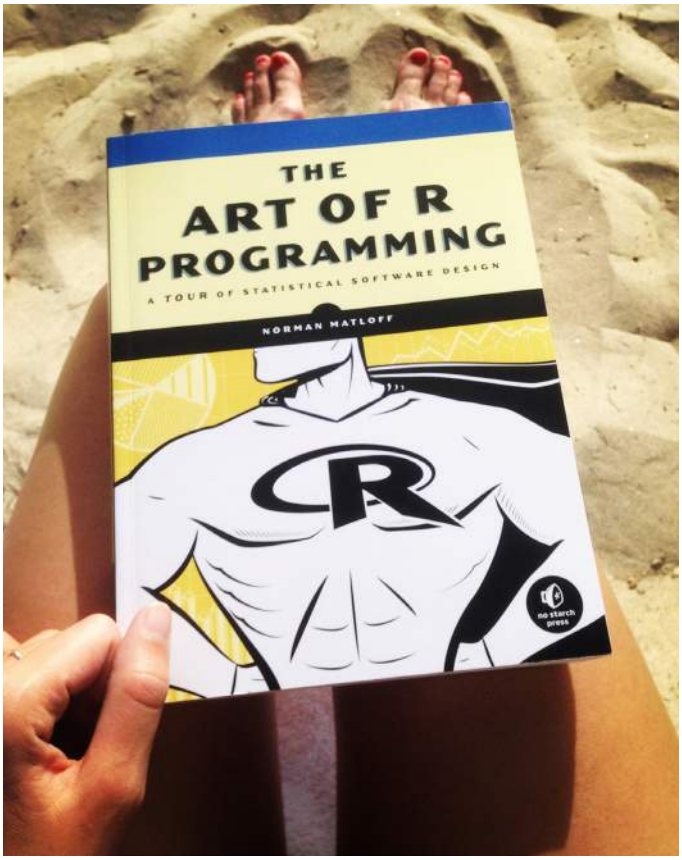
Finding a place to live was a little harder than we might have thought though; the reason was that we probably got here in the middle of June. Most people with houses do vacation rentals during the summers and rent it out to students from September to May. But after staying at hotels (started with a rather expensive one, deciding to move to something cheaper later on) for a while, and after several visits to open houses, we ended up with an unfurnished house in Pacific Beach just a few blocks from the beach. We got some beds from IKEA and a gigantic couch from Craigslist (America's Blocket) and finally started to feel like we had settled down.

Year of admittance: 2011
Studies: M.Sc Engineering Physics
Duration of the internship: 1 year

Anametrix
San Diego, CA
35 employess
www.anametrix.com

During the weekdays, I am working as a data scientist intern at a startup company called Anametrix. Anametrix is a company dealing with data analytics primarily by pulling data from the internet and putting it together in intuitive graphs and tables for their clients. The data are extracted from the clients' websites and internal data, but also from social media such as Facebook and Twitter.

Among other things, Anametrix sends automatically generated reports to their clients each day. The amount of reports is so big that there is no way we would be able to check them all before sending them. Most of the time that is just fine but sometimes the data might look strange due to technical problems. What I have been working on since I got here is to find algorithms that can give us an alert each time something looks strange in the data, although the definition of what strange data looks like seems very arbitrary. I am working on this project together with a French girl called Caroline. She has been at Anametrix since last year and is a very helpful whenever I have questions or struggle. We are supervised by Wills, who is in charge of the data scientist team. Both of them are very nice and cool people that I get along with very well and make work a lot more fun.



I did not start on the project right away though. Wills let me spend a lot of time just learning at the beginning to make me comfortable with the programming language R, which was very appreciated. Learning R was and is exciting. I got a really good textbook about it and I cannot remember any single school book that I have read so many chapters of in just one week. Some thing that I did not expect either was that you can make such beautiful and intuitive graphs with many variables in R. For a person with a great amount of interest in graphic design as myself, that was thrilling. The thing is, I have always been very interested in statistics and probability theory, but also in aesthetics. I always thought that I would have to choose one of these fields. However, what I have realized since I started at Anametrix is that the data don't just have to be calculated, but also visualized

PB BEACH

in a way so that people understand it. So the point I am trying to make is: I am getting the best of two worlds! To round up, I am so glad I chose to be part of CETAC. If you are a student at Chalmers and is just a little interested in doing an internship in the US, this is a perfect chance for you. Yes, there is some work that has to be done in order to get here, but it is definitely worth it!

Technological Leap Sharpens Carlsberg Sweden's Logistics Operations

Continues investments in automation within production and logistics during the last decade now has reached one major step incorporating a fully automated low bay pallet storage and one of the world's most advanced Automated Picking Systems – APS.

Carlsberg has a tradition of being pioneers in automation and has strong capabilities in understanding and implementing state of the art technology as an essential ingredient in the hunt to continuously improve productivity and competitiveness.

Together with new levels of automation within Production and the pregnant usage of laser guided automatic trucks Carlsberg Sweden now reaches new levels of automation implementation that will ensure high capacity and high productivity together with significantly reduced costs.

Automation is key in Nordic countries
The new APS installed in the warehouse in Falkenberg is the latest-generation picking system which also has been implemented throughout Denmark, Finland and Norway. The APS has a capacity of picking 60,000 packets per day in a fully automated process from depalletizing full pallets (fetched from the fully automated warehouse) into single packets and build customer specific pallets for shipment directly to customers as Systembolaget, retail stores, restaurants, bars and kiosks.

New technology requires deep involvement of the organization
The transition from a largely manual warehouse with lots of trucks and manual handling to a high-tech stock with fully automated warehouse and picking systems is a huge change that can never succeed if you go about it as an engineering technical desk project. "It takes a lot of communication with both management and all the operators concerned from day one and throughout.

One can hardly overestimate the value of thorough communication. It is crucial that the organization and operators feel involved and that they affect the project. The warehouse becomes very automatic, but in the end it will be managed and maintained by the people and if people do not feel ownership for the system, it will never be optimal.", says Project Manager Erik Frankki.

Warehouse handling, picking processes and supply chain is now more cost effective for Carlsberg Sweden, which has centralized logistics into one central warehouse in Falkenberg.
• Investing in a low-bay rack system pallet storage with space for 12,500 pallets
• Investing in a unique Automated Picking System – APS automatizing the demanding and critical picking process, and not least

• Major organizational changes with lots of training, new employee profiles and a massive change management tasks.

About Carlsberg Sweden

Carlsberg Sweden is Sweden's leading brewery and offers a wide selection of beverages. Carlsberg Sweden develops, manufactures and sells beer, mineral water and soft drinks, and distributes a wide range of wine & spirits.

Carlsberg's success is a combination of strong local and international brands, brewing tradition and excellence that stretches back 300 years in time. Carlsberg, Pripps Blå, Falcon, Ramlösa and Pepsi are some of the brands included in the range. Carlsberg Sweden is part of the international group Carlsberg Group, with operations in over 40 countries.

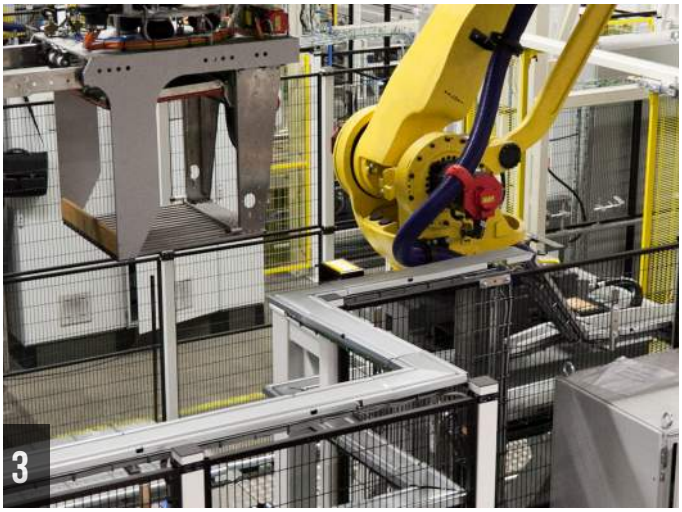
1. The customer specific pallets are built by five picking robots. The picking process picks over 60,000 packets per day in a fully automated process.

2. Depalletizing from full pallets from the automated warehouse into single packets that is distributed to the picking robots.

3. 5 palletizing robots/stations that picks about 2,900 packages per hour. The same system is implemented throughout all Nordic countries.

4. The automated warehouse can handle 200 pallets in and 200 pallets out simultaneously per hour.

5. The new automated warehouse consists of a low-bay rack system pallet storage with space for 12,500 pallets. To the left in blue is the pallet buffer where we store approximately 1,000 pallets for the nextcoming picking batches.



Life in the Big Orange

By Rebecka Jacobsson

Sun, beaches and palm trees. Cars, cars and cars. Los Angeles is a city of contrasts and life in the U.S is very different from life in Sweden. I am adjusting though – I am no longer shocked when cars turn right against a red light or perplexed when the cashier at the grocery store greets me with a "Hi, how are you?". I do still insist on using meters, centimeters and millimeters at work however, much to the disappointment of my colleagues.

About three days after arriving to LA, I broke my old habit of checking the weather forecast at least once a day – because there is absolutely no point. The weather is exactly the same every day: Warm, sunny and with a cool breeze coming in from the sea. And apparently, winter is pretty much the same. I've been told that it does rain three or four times a year, but considering that Gothenburg has 154 rainy days per year on average, I think I can live with that.

Now to work: Tribogenics is a small start-up company in the tech industry that develops a portable X-ray source. The company was founded in 2011 after researchers at UCLA discovered that X-rays can be produced by unrolling Scotch tape in a vacuum. Today, we generate X-rays using the same basic phenomenon but with a completely different setup. The goal is to create a small, low cost source that doesn't require a high voltage to operate. Once we have that, we might be able to revolutionize health care in developing countries, giving billions of people access to medical examinations they have never been able to get before. The first step is to make the source work, though. And that's where I get into the picture!

The first and most important thing I have to say about working at Tribogenics is: I love my job! I have a position as a "Research Technician" which means I get to spend my days in the lab doing experiments. It's both challenging and fun. No two days are ever the same –I've done everything from soldering circuits, leak-testing vacuum chambers and chemically etching polymers to playing around with dry ice and building a lead castle to protect myself from radiation. It's like a never-ending experimental physics lab! I never thought I'd be using so much of the knowledge I've gained at the university. It's very motivating though, and now I feel more than ever that I've chosen the right track for me by studying Engineering Physics.

Working is not the only thing I've been doing in LA

though. I've gone rock-climbing and swimming and I've hung out at the beach almost every weekend, but I've also spent a lot of time on finding a place to live, opening a bank account, applying for a social security number, taking the written test for getting a driver's license and all sorts of other things that you have to do when moving to a new country. The apartment hunt ended really well – I now live in a large apartment in Culver City with four other people who have all just graduated from USC

Year of admittance: 2011
Studies: MSc Engineering Physics
Duration of the internship: 6 months
Best US memory: Sailing in the San Francisco Bay

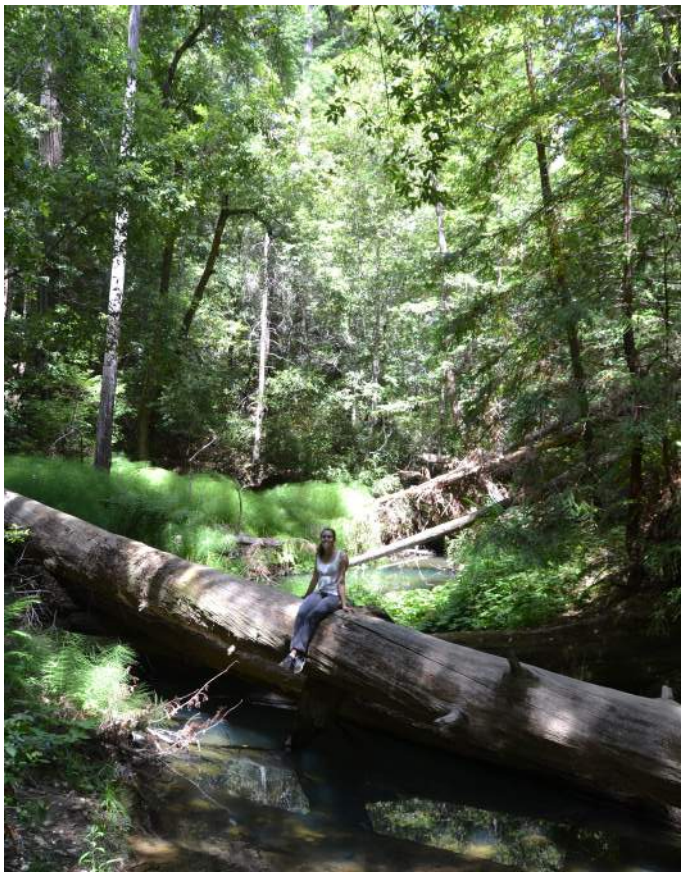
Tribogenics
Los Angeles, California
25 employees on site
tribogenics.com

and are in the film industry. My roommates are all really nice and I love the fact what they do is so different from what I do. When I get home from a long day at work someone will often show me a new music video or trailer they've been working on, or tell me about a crazy set where they spent their day, while I tell them about my X-rays. I also get to introduce them to Swedish things – the other day we went to IKEA and in the car on the way there we listened to Robyn. On the way home, we ate Daim and Swedish fish.

Now to one of my most unexpected pleasures: Biking in LA. I had heard lots of people say that LA is a "car city" and that you have to have a car to get anywhere. Well, that turned out to not be entirely true - I have managed to survive for more than a month on only two wheels and two increasingly strong legs. It's not always convenient and there are days when getting on the bike at 8 AM in the morning is the last thing I want to do, but most days I love it! My bike is the best and prettiest I have ever owned – it's an entirely white single-speed with a lime green back wheel. About every second day or so, someone will yell "Nice bike!" after me when I zoom by. By the time I've registered what they said, they're usually far behind me.

So far, I've found two good bike paths in Los Angeles and both of them take me from my apartment to work in about half an hour. I do need to bike on normal roads for a few blocks in each end though, and that is always the scariest part of my day. It's easy to tell that drivers here aren't exactly used to bikes and they very often forget to look out for them when turning right. I often get the feeling that they regard bikes as annoying obstacles rather than fellow road users. I've heard lots of people say that the amount of bikers in LA is rapidly increasing so I hope that attitudes will change eventually. Until then, I'll make sure to wear a helmet.

I really look forward to comparing the impressions I have of work and LA right now to how I feel once I reach the end of my six-month internship. I'm pretty sure that lots of things will have changed, and that I'll have seen more, done more and gotten more used to culture here. Perhaps I'll even be using inches, even though that seems unlikely right now. To me, it's all one big adventure and I've loved every minute of it so far. One final thing: If you are reading this and thinking of joining CETAC I would like to quote a famous American company's slogan: Just do it!



Stay Classy, San Diego!

By Robin Hammaräng

After a long, exciting year full of hard work together with my friends in CETAC I finally left Sweden for America. After about a week in New York I arrived in San Diego, where I'm about to spend the next 12 months as a Software Engineering intern at Anametrix.

What first struck me about San Diego is that the lifestyle here is more relaxed when compared to the hectic way of life in New York. At the point of writing this, I've been here for 6 weeks and I can definitely say that I really have enjoyed my time here so far. Me, Julia and Tomas, both from the CETAC organization and interns at Anametrix, live in a house in the part of town called Pacific Beach. As you might understand from the name, it's just next to the Pacific Ocean. So far we've spent a lot of time at the beach, mostly surfing but also enjoying some beach volleyball and the company of good friends.

I have never surfed waves with a surf board before in my life, so the first sessions were wet to say the least. When I walked out into the water for my first session, with my newly bought surf board, I felt confident since I've spent a lot of my time surfing waves while white water kayaking. I'm used to being in the water and I snowboard during the winters. Surfing with a board basically is the combination of the two, so I thought how hard can this be? Let's just say that the waves tumbled and threw me around and soon I realized that I won't learn this in a couple of weeks. Surfing is hard, much harder than it looks. After the first session I was unsure if I ever were to stand on the board. But now, after trying to surf for another few sessions it feels much better. I love being in the water and surfing is just getting more and more fun. So far I've only been surfing together with friends, but I'm planning to take a few surfing clinics to help me improve further. The plan is to come back to Sweden as a full fledged surfer, I guess time will tell how that goes.

You can really feel that the surf culture have influenced San Diego, especially Pacific Beach. Not to mention that there's surf shops pretty much everywhere along the beaches but most of the stores around here are influenced with surfing. There's surfboards used as signs for shops or they're used for decoration and benches to name just a few examples. As a surfer you don't mind waiting a few minutes to catch that perfect wave, and I think that's how people live their lives here. They're definitely not stressed out, people usually take their time here. People here are also very friendly, sometimes it feels like they're treating everyone like a friend.

I have spent some time here exploring the food culture in America. Tasting different types of food is just one of the treats of arriving in a new country. There is a big diversity among the food here. Just next to our office is a big food court with food from all over the world, Chinese, Japanese, Korean, Greek and so on. That's usually where I head for lunch during the weekdays. I've spent some time exploring some other food as well around the city. I've been to Phil's Barbecue Grill, who serves the most amazing ribs I've ever had. Just down the street from us is a really nice Mexican place who serves great fish tacos and another restaurant who serves amazing lamb burgers. The food here is something else compared to

Year of admittance: 2011
Studies: MSc Software Engineering
Duration of the internship: 12 months
Best US memory: Watching the sunset from my surfboard

Anametrix
San Diego, CA
35 employess
www.anametrix.com

Sweden, different in some ways but usually really tasty. I've heard about a restaurant down in the heart of San Diego who servers Brazilian Barbecue, basically a buffet of meat. That sounds really delicious to me.

Work so far has been really enjoyable. I'm here as a software engineer, which means that I am developing the Anametrix software together with the other engineers. My work tasks so far have been to do a bit of quality assurance, data validation and a lot of coding. It didn't take many days until I was working with finishing up the first task I've been assigned and the code got pushed to production. The great feeling I got when I knew that the code I wrote was good enough to be included in the live product gave me a lot of self confidence in continuing to write code. Throughout the last year of my Bachelors program at Chalmers I've been very indecisive if I'm enjoying coding or not. This year here at Anametrix will really serve as a true test if coding is what I want to spend my future with or if I should pursue more of a managing role within IT. It's too early to tell right now, but coding doesn't seem that bad after all.

My workplace is in the open plan office at Anametrix. When first coming here I thought it would be stressful and annoying to work in one big room together with all the other engineers. I was a bit surprised when I realized how quiet and relaxing it is here. The conversations people have are usually rather quiet so there's rarely any problems to focus at work. When having to work with being creative, which coding generally is, it's important to take breaks to be able to keep the focus up. The company has a pool table, table tennis, football game and a few different game consoles to let the employees let their minds wonder from work a bit and then come back in full force. If there's a lot to the company tries hard to make it as comfortable as possible for the employees. For one of the code marathons we've had so far the company helped out by bringing lunch and dinner for everyone. It's small things like that who makes a difference and makes at least me try harder. Americans seem to be really devoted in what they're doing. There's many people here at the office that comes in early and stays late or works late evenings and weekends from home to stay on top on their tasks.

So far life here in San Diego is much better than I hoped for, and I had some pretty high expectations before I got here. I've met some really friendly American people who I hope to spend much more time with to experience their culture to the fullest. Together with Tomas, Julia and a few new found friends I've visited Los Angeles to do all kinds of things. We've been up to the Hollywood sign, enjoyed the beaches at Venice Beach, walked up and down the shopping streets in Santa Monica, experienced the LA nightlife and enjoyed the fireworks of 4th of July. And I can't forget to say that me and Tomas went to Long Beach in the southern parts of LA to watch the Long Beach Grand Slam, one of the stops in the world series of beach volleyball. We saw the world's best beach volleyball players fight out for the number one spot. There's still much more to do and explore here, and since I'm staying for a year I hope I will have time to do most of it around. And as they say: "Stay classy, San Diego!".

The Life of Surfing, Beach and Sunshine

By Tomas Selldén

After a year of hard work as a member of CETAC, we had finally reached our goal: the journey to USA. It is difficult to describe the feeling when meeting up with all other Cetac members in USA and knowing that we all had succeeded to get an internship in USA.

My journey started the 9th of June with a week vacation in New York. We stayed at a hostel in Harlem, which is a couple of kilometers north of Manhattan's downtown, but since the public transportation is really good we had time to do a lot of things. Mainly we were sightseeing, for example we visited Central Park, Times Square, Brooklyn Bridge, the statue of liberty and going up for The Top Of The Rock. Already the first day I was stunned by the American food size, in a sport pub I ordered pulled pork with baked vegetables and after eating half of the plate I could barely move and it felt like my stomach had doubled in size! It was way more than a pound of meat on that plate! After an amazing week in New York we all traveled our separate ways except me Julia and Robin who all were heading to San Diego for working at Anametrix.

I am now living in a suburb to San Diego called Pacific Beach, which is located north of downtown and as the name exposes it is located close to the Pacific Ocean. We are sharing a three-bedroom house five blocks from the ocean, which I really enjoy. Pacific Beach is a really laid-back place and it does not feel like someone knows about the word stress. Instead people are hanging out on the beach or strolling around with their flip-flops and tank tops. People here are in general very friendly and outgoing which makes it easy to get in contact with new friends. They are also very generous and we have been to some barbeques and the Americans are always sharing everything they have which elevates the mood. Recently I have started to surf and that is something I will continue to do. It is so fun and relaxing to just be a part of the ocean and trying to catch the waves. The last couple of days I have been surfing before work and that are by far the best morning exercise I ever have done.

The company we all work at is called Anametrix, which started 2008 and today we are 35 employees. The company works with Big Data, which means that we are working with huge amount of data sets. The data can be collected from social media, newspaper or basically everything that can be found on the Internet. This data are then put together in reports that our customers can read. As for example of a customer a Brazilian company invested a lot of money for advertising during world cup in soccer. They bought our services to get an insight if their


AT WORK

Year of admittance: 2011
Studies: MSc Software engineering
Duration of the internship: 1 year
Best US memory: Morning surfing in the sunrise before work

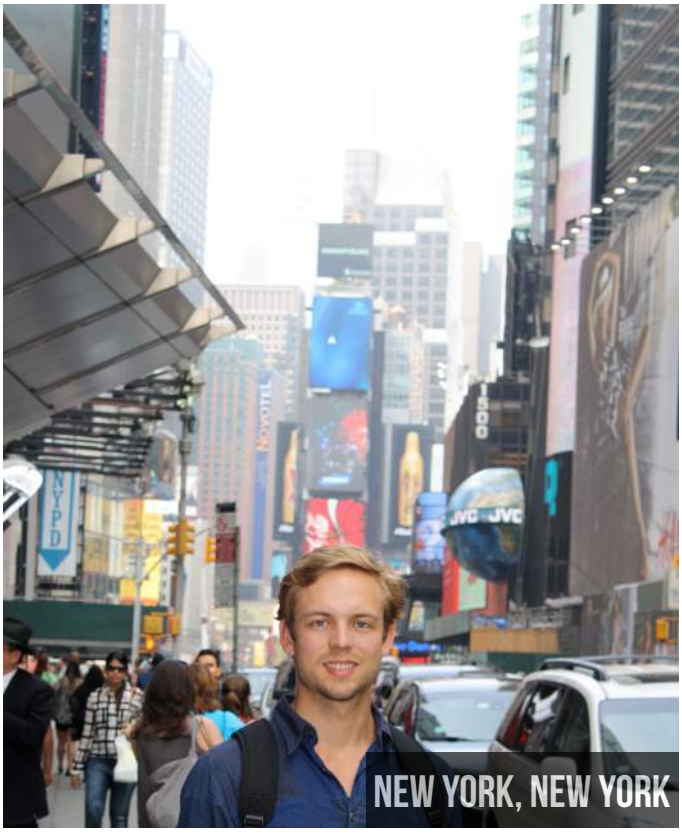
Anametrix
San Diego Californa
35 employees
www.anametrix.com

advertising and marketing gave any results.

As a software engineering at Anametrix you have a lot of freedom to decide your office hours, but as a rule you should try to be at the office between 10 am - 3 pm. It is also possible to work from home, however, so far I have mostly worked at the office. I enjoy hanging out in the office, the locales are newly renovated and if you want to take a pause from the job it is possible to play table tennis, pool or video games. We are ten people working in the engineering team and every Monday we start the week by having a meeting with our CTO. During the meeting we talk about the most important features and bugs and sets up goal for what we should accomplish during the week. I really like to work in such a small team and it gives me an overview about what everyone is doing and possibility to understand how we together can develop the company. We work in ActionScript on the frontend and Java on the backend. So far I have only been working on the backend. The task I have been working on has included fetching new data, data validation or QA testing.

Except from working and spending time in Pacific beach me, Julia and Robin have been visiting Los Angeles three times. Among other things we celebrated 4th of July on a rooftop pool, been visiting Santa Monica, Venice Beach and hiked up to the Hollywood sign. All our road trips to Los Angeles have been so fun and since it is only a two hour drive from San Diego I will definitely spend more weekends there.

This adventure has been amazing so far, and I still have so many more thins I want to do. Lucky me I have almost eleven more months to explore the neighborhood. To know about them, please ask me at the next alumni event.



NEW YORK, NEW YORK

LOOK AT THE HOLLYWOOD SIGN!

Down to Earth at NASA

By Linnea Hesslow

Ten thousand scientists and engineers gathered at a campus just outside Washington, D.C. to, among many other things, build rockets, study distant galaxies, monitor space weather and observe climate change. That is NASA Goddard Space Flight Center. As someone loving physics and science, an internship at the small NASA contractor company NVI is totally wonderful.

Among all these amazing tasks of NASA, NVI does VLBI (Very Long Baseline Interferometry). VLBI is about providing two reference frames: one on Earth (the terrestrial reference frame) and one relative to the sky (the celestial reference frame). This is done by observing quasars, very bright radio sources. If several radio telescopes observe the same quasar, the captured signal can be correlated to find the difference in arrival time from the quasar, and therefore also the distance in the direction of the quasar between the two antennas. By letting a network of antennas distributed all over the world observe a large number of quasars, these two reference frames can be determined.

To build up a reference frame on Earth might not seem so difficult, and if the Earth was like a giant constantly rotating undeformable marble it might not be. But the Earth is more like a wobbling tennis ball, constantly being deformed by loads as well as changing angular velocity and changing axis of rotation. This is due to tides, variation in air pressure and tectonic movement just to mention a few. The models used in VLBI are extensive and very complicated - and constantly improving. VLBI data has a wide range of applications including observation of tectonic movement, to provide the reference frame for sea level measurements, to measure UT1 (universal time), and to calibrate GPS data. Altogether, this makes VLBI a truly interesting technology, and being located at this huge NASA campus only contributes to my amazement. Sometimes I just cannot help walking around with a smile all over my face when I think of where I am or when I attend one of the many very interesting talks and colloquia offered regularly. For example the astronaut Michael Hopkins had a great presentation on my second day here.

Since I arrived at NVI a little more than a month ago, I have been working on a project to analyze and visualize the antenna networks. I have learnt a lot about VLBI,

Started at Chalmers: 2011
Program: B.Sc Engineering Physics
Internship length: 2.5 months
Best US memory: Whitewater kayaking on the Shenandoah River

Company: NVI Inc.
Location: Greenbelt, MD
Employees: 12
Website: www.nviinc.com

used regular expressions in the programming language Perl to extract data from huge files and spent a lot of time doing analysis in MATLAB. My next project, which I have just started on, is about tides. The current model used for VLBI has 71 terms to describe tides. Given that tides are just a tiny part of the entire model this gives a feeling of how advanced the technology is. My task is to investigate the possibility of improving the model for tides by constructing orthogonal base functions, so-called orthotides. I will analyze how the orthotide approach affects the VLBI results and what effect adding more terms to the model will have. So far, I have mostly read papers on the subject where I, to my happy surprise, encountered both orthogonal polynomials and integral principal values used in one of my favorite courses 'Mathematical Physics'.

When not at work, I have explored Washington, D.C. and the surrounding area. I like D.C. very much; there are a number of nice districts, many great museums, a lot of greenery and many really good restaurants with everything from traditional seafood dishes to Ethiopian food and the Japanese dish okonomiyaki that I have been looking for over the last four years. Celebrating Fourth of July in the capital of the United States was a memorable experience. Some of the other things I have done during my month here are whitewater kayaking, a visit to the national park Shenandoah and a trip to Annapolis where one of the main attractions was a 6 pound milkshake (we were seven people sharing it though).

A 6 LBS MILKSHAKE IN ANNAPOLIS

I live in a house together with five other girls. The house has a friendly atmosphere and a great porch for barbeques. Since it is so hot here, often above 30 degrees Celsius, it is great barbeque weather almost every evening, except for some heavy thunderstorms. Just across the street from my house there are some biking and running trails that lead to a beautiful lake which is perfect for a morning run before it gets to hot outside. It is beautiful at night too with a lot of fireflies.

As for the culture, I feel that the differences to Sweden are mostly in the details. Few things are really different, but there are enough small differences that there is no doubt I am very far from my home country. One of these differences is the diversity. While there is a lot of junk food in enormous portions (like those giant milkshakes) it is also easy to find something really healthy, like wonderful salads and bright green wheatgrass shots. One of my best salads so far was from the salad bar of the grocery store Whole Foods, which is an entirely different grocery store compared to the cheapest stores which are more suitable if you want a good laugh than if you want to find something you would actually like to eat. More than anything else, the diversity includes people. I love how people from all over the world come together to celebrate Fourth of July as the birthday of their country. At NASA and NVI the cultural diversity is large and people come from many different countries. The international atmosphere and the friendliness of all NVI employees make my internship here wonderful. I would like to thank all of them, especially my supervisor John for great support and Dirk for great week-end excursions.

FOURTH OF JULY CELEBRATIONS

Good Times in L.A.

By Andreas Magnusson

If you are studying engineering physics and are looking for a place to test what you have learned in the real world, Tribogenics is the perfect place to be. Everything from theoretical calculations with pen and paper to numerical calculations in Matlab, as well as laboratory work including electronics, experiment alignment and LabView is an every day's work. But how is it to actually work with these things in a startup company like Tribogenics?

I can start simply by saying that it is really great. To work in this environment with very talented and ambitious people is a privilege. Everybody works very hard and are very serious about what is happening but we still have a very relaxed company spirit. Everyone is very nice and welcoming when I have questions and I never feel any hesitation to ask when I need to know something. One thing that was a positive surprise is that the people from management regularly come into the lab to check in on how, and what, everyone is doing. I cannot speak out of experience since I have never worked with engineering in Sweden, but it does not feel like it should be that common there. We hold lab meetings every Tuesday and Thursday with the whole company invited. This way everyone is kept up to date on the overall picture of what is going on in the company at the moment. On top of this we have "donutday" every friday where the company buys donuts for all the employees, which is very appreciated.

To give some more info about the people working here, most of us in the laboratory are very young. 6 of the 25 employees are interns and the ages of the interns span from 16 to 24. The R&D engineers and research technicians are younger than 30 and some graduated recently while others still have a few classes left. Needless to say we are very much alike and get along easily.

Even if the office is such a social place, we do not hold ourselves from doing things after work as well. During my first weeks here we have had two afterworks in which many of the coworkers participated. The first one was a bit special because a long-time employee was quitting to go on a trip around the world. We went to a Korean Barbeque where you sit 68 persons around a table with a grill in the middle of the table. It is one price for all you can eat and the waiters bring you big piles of meat which

Year of admittance: 2010
Studies: MSc Engineering Physics
Duration of the internship: 6 months
Best US memory: Studio tour, Universal Studios

Company: Tribogenics Inc.
Playa Vista, CA
25 employess on site
www.tribogenics.com

AFTER WORK AT A KOREAN BARBEQUE

you grill yourself at the table. We were 20 persons from the company and spent nearly 5 hours at the restaurant drinking beer and eating meat. I do not think I have ever eaten so much meat in my life.

So what else is going on when I am not working? The first weeks have been mostly about getting everything sorted out but I have to say things turned out very smoothly for me. I got here on a Saturday, checked in to a motel and started looking for a place to live on craigslist. I got a reply on Sunday about a place in Westchester and moved in on Monday. It is only a 20 minutes bike ride from work and the rent is very reasonable for Los Angeles. It is a big house with four other persons who are all very nice. My housemates have taken me around to several places to eat and hang out which I would never have found on my own. One of the most memorable places so far was the "taco-truck" in the middle of a township called Inglewood. The truck by itself was very nice; good and cheap food made by nice people, but it was the most intense meal I have ever had. As nice as LA may be, it certainly has some places where you should be very careful; and Inglewood is one of them. While sitting down on the curb eating very nice tacos I could hear gunshots in a distance and when I looked around at the buildings, the windows were all covered with iron bars on top of bullet proof glass. My friend named this evening my "Ultimate Ghetto Experience".

Los Angeles is known for being a very athletic place with lots of different sports. Apart from the regular ones, such as football, baseball and hockey, this is the place where the skateboard culture originates, as well as the city where Arnold Schwarzenegger and other bodybuilders made their careers. Lots of people here run, bike, play basketball and of course, surf. Surfing is one thing that I would like to start doing pretty seriously as soon as I find a decent means of transport, which in this city means a car. I tried using the public transit here and it was a pretty bad experience. I have a bike which is fine for getting to work, grocery shopping and whatnot, but LA is simply too big to cover without a car.

Stay Free, ‘Murica

By Gabriel Andersson

Software engineering somewhere else than on the westcoast? Why, yes! Delphi, the $16 billion revenue automotive company, made it possible! With not only sunny summers, Michigan delivers snowy winters. All that one could ask for!

Living abroad had always been on my schedule, either being a tourist for a couple of months, business related or something else after graduation. But I never saw myself getting a software development assignment at a company such as Delphi while still being schooled in data structures. When I departed from the others in New York in the middle of June it still felt unreal and I still had not realized that the flight wasn’t going back home to Sweden. The flight was heading to my new home: The outskirts of Detroit in Michigan.

Getting set up was an experience by itself since I only had a job. Finding a home, a car and doing all the paperwork to actually live in the area. It took a week for all the preparations and then all I could do was to enjoy my stay. Sure, I live in what the locals would call “the hood” and they keep telling me that I should be careful, my car has a lazy transmission and a bunch of stickers that says that the other vehicle i own is unmanned (what ever that is all about) to cover up rust spots and paint cracks and I am currently sitting at a Laundromat while writing this. But the rent is cheaper here than back home and I got the car for $1600, so in other words the voice in the back of my head has only been chanting “ ‘Murica! Stay free!” so far.

The internship is nothing like what I expected. I have my assignments, my deadlines and I am responsible for getting the material that I need to deliver on time. My direct supervisor sits about twenty desks away and comes by once in a while to check in on me and see if I have everything I need. Since Delphi is as big of a company as they are, the two sites near Detroit has taken in around 40 interns during the summer from schools all over the US. In other words finding a crowd to join and do after work stuff wasn’t too difficult. Just to mention a couple activities, we have went to some of the Metroparks, gone to concerts such as Gavin Degraw and festivals like Vans Warped Tour’14. Since the summer interns have less than a month in this state our schedule outside work hours has been cramped up with activities, among them is skydiving and bungee jumping that I really hope that we go through with. Unfortunately this magazine has to go to print before I’ve been able to go, the updates will be on the blog.

Delphi has the most computer units out on the market nowadays, but how come Dell is more well-known? Because a modern car can normally pack about 40 computers to make the driving more convenient. At the Electronics & Safety department in Delphi Customer Technology Center Michigan where I work today a large focal point is the Human Machine interfaces (HMI). In other words the communication units that the driver can interact with.

ME STANDING WITH ENTER SHIKARI, A BAND FROM THE UK

Year of admittance: 2010
Studies: M.Sc. Software Engineering
Length of Internship: 6 months
Best US memory so far: All the crowd surfing on Vans Warped Tour’14

Company: Delphi
Detroit, MI
300 employees on site
161 000 employees worldwide
Webpage: http://delphi.com/

VANS WARPED TOUR'14, RIGHT AFTER THE AREA HAD OPENED

My assignments in the office so far has been to build a TCP/IP service that can communicate with the HMI clusters. This is normally done through a Controller Area Network (CAN) bus, but that is not something normally taught to graduate students and it has few applications outside the car industry. My guess is that the way of communicating between the units is slowly transferring over to TCP/IP. My assignments have also been to develop an application that communicates over the CAN protocol and generate signals picked through a testing interface.

When the summer is over my assignments will become different. If I understood my supervisor correctly I will be working on closing cases that have been opened and I might also start assisting the project management of our production group. In other words Delphi has given me a broad base to learn how my life as a postgraduate might be.

You might have read about the stereotypical hipster programmer sitting in flip flops, khaki shorts, wearing a fedora in a cafe with a macbook. This might actually be something you'd find if you live on the west coast. Over here in the east, the appearance is a bit more business. The culture of clothing over here is to dress up for work and then dress down when heading out. Which makes everyone look somewhat more like a slob when seeing the person after work hours. Even though the button down shirt, the slacks and tie was not something that I have been used to wearing before, it has a nice feel to it to head down to the office as a white-collar worker. Another good thing to take in about the US is how helpful and social people are here. I never thought that I would strike up a conversation with someone on the street while waiting for a red light. But hey, that happened. Back home in Sweden that might had been enough for someone to activate their panic alarm.

To summarize it all I am more than happy about the decision regarding six months at Delphi. It's a good company and if I had taken a shorter internship I wouldn't have gotten to enjoy the 'Pure Michigan' lifestyle. And if someone would ask me if I miss Sweden I would probably say yes, but far from enough to leave everything that I have established here. No regrets.


AUBURN HILLS STUDENTS GROUP


A VERY SHORT HIKE IN ONE OF THE METRO PARKS

Life in Santa Barbara

By Simon Andersson

In Santa Barbara I am trying to be a part in the development and innovation of the future in the display industry. I am also trying to adopt the chill surfing southern California way of life living in the student city Isla Vista.

After a year of hard work for CETAC, it was finally time to leave for the great country in the west, United States of America. It was with both excitement and nervousness I packed my suitcase full and left my apartment, friends and life in Gothenburg to spend the next 6 months in California. My first stop on the trip was New York, where I together with some of the other members of CETAC spent a couple of days of exploring the city. After this short vacation I then left for California and the city Santa Barbara.

On night of June 11th I arrived to Los Angeles airport and took the two-hour bus trip up to Santa Barbara where my company Cbrite has is located. The day after

ME CHILLIN' AT THE OFFICE

ME IN THE CLEAN ROOM

my arrival one of the employees at Cbrite met up with me and showed me around the city and the surroundings. I also got the chance to meet some of the other people at the company during an after work at a restaurant. After the weekend where I explored some of the places in Santa Barbara it was time to start my internship. My first day at work was my predecessor Olle Norelius last day at his internship. So he gave me and the other intern that started the same day a quick guide of the company and the job as a Test Engineer intern.

Cbrite is a research company in the industry of semiconductors and transistors. We are working with the development and innovation of Thin Film Transistors for the flat panel display industry. In a flat panel display every pixel is controlled by Thin Film Transistors. With a high demand for better displays with higher resolution and better performance this also requires better transistors. The technology used today is about to get old and insufficient to meet the quality demands. At Cbrite we then

Year of admittance: 2011
Studies: BSc engineering mathematics
Duration of internship: 6 months
Best US memory: Going kayaking at Channel Islands

CBRITE Inc.
Santa Barbara, CA
25 emplyees on site
35 employees worldwide
cbriteinc.com

ME ON A BEACH ALONG HIGHWAY 1

innovate and develop new types of Thin Film Transistors that will meet these demands. To be able to do this people with long extensive experience from electrical and material science work at Cbrite, which makes it a really inspiring place to be an intern at.

As a Test Engineer intern my task is to test the different transistors we make at Cbrite and present the result to my manager. Depending on the properties of the transistor I need to run different tests to be able to analyze the quality correctly. Often the results is not what you expect or want and I then have to try to figure out what is wrong, either with the method of testing or the with the actual transistor. I then present and discuss the result with my manager and then trying to design a better transistor from the results obtained by the tests.

Being here for almost two months it still feels like I am on some kind of vacation and I have not really grasped that this is going to be every-day life. On the other hand most of the stuff I do here is stuff I would associate with vacation in Sweden. On a regular day after work I usually go down to the beach and hang out there until sunset and play some beach volleyball. I have also bought a surfboard and started to surf. I would not say that I am good surfer yet, but give me some time to practice and to let my surfer hair grow and I will soon be a real Californian surfer. Living just three blocks from the beach and the ocean makes it also really easy to just grab the board and head down to the beach and catch some good waves.

On the weekends I have also had time to do some trips and see the area in Southern California. I have met a group of people doing research internships at UCSB and spent some time with them going to different places. The area around Santa Barbara has some really cool nature and lots of places to go for hiking which I enjoy a lot. With just a short drive you can find really nice nature to hike in. Outside of Santa Barbara in the ocean there is also a big national park with some islands. Last weekend we went there and did some kayaking. It was a really cool experience where you could paddle along the cliffs and also head in to some cave along the coast. The hangover from last night disappeared pretty quickly when you are out in such amazing nature. In the future I will definitely go for more trips to some of the cool national parks situated in the area. I just became a member of an excursion club that will arrange trips to all these cool places. Because on the weekends it really feels like I am on a long vacation away from Sweden and then when the weeks starts it is business on a Monday.

SEA LIONS CHILLIN' THE CALIFORNIAN WAY

Before I moved to Santa Barbara I have heard from almost everybody that housing was easy to fix when you arrive there. But as a bit anxious I was a started do some heavy research on craigslist months before leaving Sweden. But this turned out to be all in vain. All places I have checked out in advance turned out to be very messy places to live in. But after a couple of days going around and look at vacant housings I found a really nice place. I do not actually live in Santa Barbara but in the city of Isla Vista 15 minutes away. This city is located just beside the university UCSB and is a city where mostly college students live, which makes it a really cool and special place. It is a pretty crowded area and you see people everywhere going on their longboards, getting their surfboards down to the beach or heading over for some beerpong party.

After just two months here I really want to encourage everyone at Chalmers to take the chance to go for an internship in USA by applying to CETAC. It is definitely a really great experience both for your engineering skills and to live the life as an American.

Beaches, Palm Trees and AGVs

By Oskar & Sebastian

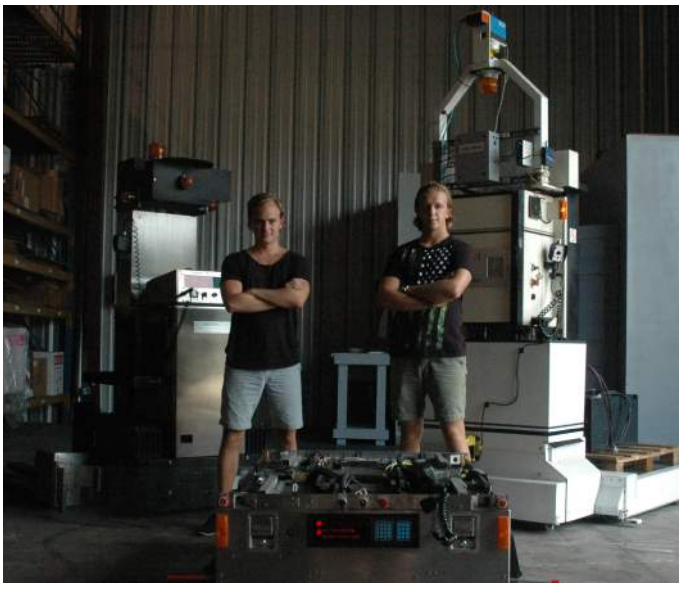
About a year after signing up for CETAC, the day had come. The day it was time to trade northern cold to exotic heat. The adventure of our lives could finally begin.

After a hectic spring and 3 days of partying after the hand-in of our bachelor thesis, the day when we would move to the U.S. finally arrived. First destination was the city with the streets that makes you feel brand new, New York! Unfortunately, we cannot agree with Alicia Keys, they make you feel sweaty, not brand new. At least in the summer when the temperature reaches up to 30 degrees Celsius and there is no cooling winds present, but the weather couldn't stop us from exploring the city that never sleeps. After spending 5 days visiting basically all of the great tourist attractions such as Empire State Building, Ground Zero, Museum of modern art etc., eating fantastic food and last but not least, hanging out in awesome Brooklyn it was time to go to a place even hotter, Florida!

The Company
Company: Amerden Inc.
Location: Saint Augustine, Florida
Number of employees: 10
Webpage: www.amerden.com

Oskar Karnblad
Year of admittance: 2011
Education: M.Sc. Electrical engineering
Best US memory: Empire State Building
Length of internship: 6 – 12 months

After the first 4 days it was time to find somewhere else to stay. Since our new place would not be ready for a month, we ended up at an extended stay in Jacksonville, which is the city in Florida with the highest population. After living in a hotel (and sharing a room) for five weeks it was a big relief to finally being able to pack up our bags and get a place that we could call home. It is a great two story townhouse close to the beach and with an ocean view. The feeling of taking a morning swim in the ocean before work is amazing. You could absolutely say that it was worth the wait (who would not wait a few weeks to live a 100 m from the beach?) Amerden Inc. is a small company with 10 employees that specializes in Automatic Guided Vehicle Systems(AGV) used in material handling applications. The solutions are customized for each client's needs. The company develops, installs and tests the complete system on site, both vehicles and software. Except new installations, Amerden also provides support and maintenance of previously installed systems. With a great variety of client's spread over mainly North America but also Asia, the internship can result in a lot of travelling. This report is actually written in the car on the way back home from a week's work at a client in South Carolina (more about that later). This is a great way to



see new places while doing something that benefits both the company and yourself. So what are our tasks at Amerden then?

Well, the first weeks at work, we familiarized ourselves with the software and programming languages used to control the AGVs, electronic wiring and the basics of an AGV. As time went by, we have also been writing manuals, training opera-

Sebastian Karlsson
Year of admittance: 2011
Education: M.Sc. Electrical engineering
Best US memory: Independence day celebrations
Length of internship: 6 – 12 months

tors and making AutoCAD layouts. The advantage of working at a small company is that you get a complete picture and you are not just specialized in a small area. Another great thing about working at Amerden is that no day looks the same. One day you might be doing tests of your new control software on the AGVs while the other day you will be working with lasers or doing layouts for how the guide wires should be placed in a warehouse for a big healthcare company.

The sixth week in the land of the free we were heading to South Carolina for our first on-site experience. Here, the system consists of large AGVs that are handling heavy loads of photo paper. As everything in the US, the warehouse was huge. It consists of long aisles with 10 m high shelves. Here, the products that are produced at the facility are stored, until they are shipped to all the corners of the world. It was a great experience seeing a big system in action and communicating with the customer to solve their problem.

Three days before we went to South Carolina we got an email from our boss saying that our townhouse now was ready to move in to. We packed our bags and went to our next and final destination, St Augustine! The town St. Augustine, located at the Atlantic coast of northern Florida, is the oldest continuously occupied city in the U.S. The city was founded by the Spanish in 1565 and offers something for everyone. Great cultural heritage such as the Castillo de San Marcos for the culturally interested, bunch of bars and restaurants with live music for the thirsty and hungry, Saint Augustine amphitheater with great line-up for the music lover and endless beaches (with good conditions for surfing) for the one who needs to get its tan on. Actually, the beach in St. Augustine stretches all the way down to Miami but is divided into many small beaches. The town's location provides good travel

alternatives to many beautiful and cool places with both car and flight such as Tampa, Miami, Key West and Bahamas. Put your sunscreen and best Hawaii shirt on, pay about 200 bucks for a round-trip ticket and you are on your way to a Caribbean paradise.

The life here in St Augustine is really different from home, it has both its good and its bad sides. The good sides are the reason that Florida is called the sunshine state. St Augustine has about 240 days of sunshine a year and an average temperature during summer of 30 degrees Celsius. The downside with hot temperature and high humidity is that it causes a lot of electrostatic discharges in the atmosphere, also known as lightings. During the summer it is basically sun and nice weather for 20-22 hours a day and heavy lightings and thunder for the 2-4 remaining hours. But in a place that only has "winter" (about 10-20 degrees Celsius) for 2 months, it is just to hang in there during the sudden flows of electricity in the air and locate yourself in one of many nice bars or restaurants that St Augustine has to offer.

The food here is really varied and whatever your eating habits are, you will find some of the best tasting food over here. Except for the fatty food that the U.S. is famous for, St. Augustine and the south overall provides the food lover with great flavors that will make your taste buds thank you. Everything from some of the greatest seafood and fish you have ever tasted to bloody steaks and Idaho potatoes are available at most of the places. The diversity results in the best from many different kitchens around the world. After you have finished the food, a thirst quencher is recommended at some of the local bars. Almost every bar here offers great local live acts playing mostly rock, blues or reggae music and as the sun goes down and coloring the clouds pink you can hear the bases from house music echoing through the narrow alleys of the old town.

This experience has been fantastic and we are looking forward to see what the rest of our internship has to offer us. A combination of beautiful beaches, new experiences and a workplace that we really enjoy has made this the adventure of our lives. We would like to thank our co-workers at Amerden for welcoming us to the company and for patiently answering all of our annoying questions. A special thanks to our supervisor Jonas Ohlsson, Patricia Anderson and our boss Roland Anderson and for all the hospitality, help and guidance that have made Florida feel like home.

‘Murrrrica!

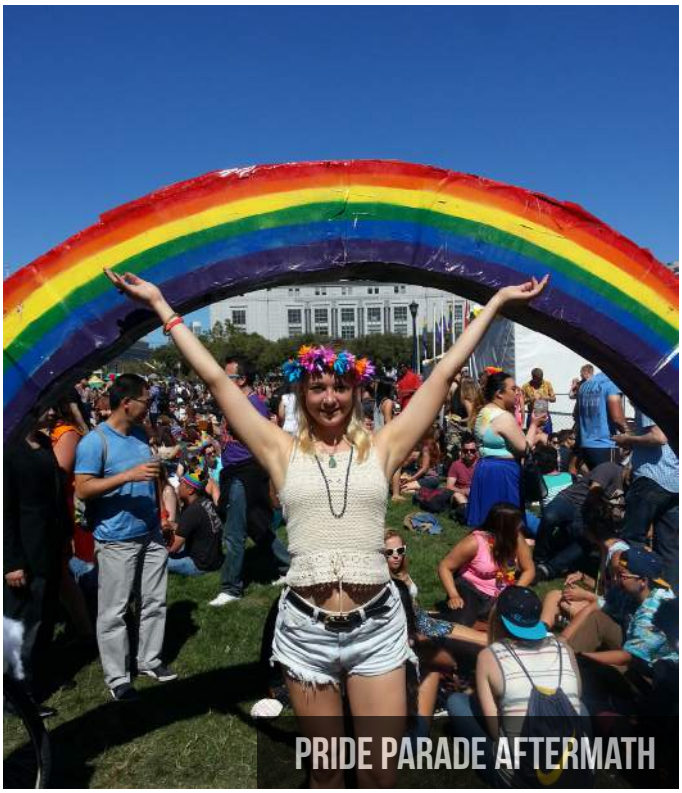
By Madeleine Appert

It’s a weird thing, packing up your apartment in your hometown and leaving for a new country. You leave the most familiar thing for something completely unknown. I remember the last few months in Sweden, my visit to the embassy in Stockholm, and the approaching departure - even though I had everything set up and I knew I was leaving, it didn’t feel real. Two months into my internship, it still doesn’t.

Arriving in San Francisco, I experienced the best of welcomings from Delphix, the company which I’m interning with. A few of the current Swedes working for the company, picked me up at the airport, helped me settle in to my room and brought me along for a Friday evening beer tasting with my future colleagues. We hung out on the roof in downtown SF, and I had the chance to familiarize myself with my new work environment and a few faces before the approaching start on the Monday.

I would describe Delphix as a big startup - we reached 200 employees shortly after my arrival here, which we celebrated with an evening of bowling, drinks and food. Across the three US-bound offices (in Menlo Park, San Francisco and Boston), we have been 20 interns this summer, and so far it has been an experience beyond my expectations. There are many things, which have contributed to me loving my job here. I have brilliant colleagues, as eager to teach as they are to listen and learn from anyone who has something to say. People collaborate across departments and offices, and working for Delphix really means being part of a team. Even as an intern I feel as a valued team-member, I have my own project which I know will have an impact on the future work of the engineering team, and therefore I feel that what I’m doing here is important. There is also a wonderful social scene within the company, consisting of ‘Bad Movie Nights’, beer tastings and volunteering at food banks among other things.

There is a lot to explore in San Francisco, but the thing that you cannot simply explore as a tourist, or explain, is the ambiance and the vibe of the city. Since moving here, I have been to morning raves before work (Morning Gloryville for those who considers Google a friend), seen the Pride Parade, I have been going to ‘girls night out’ with inspiring people I first met at a random beer tasting, and generally experienced people going out of their way to help or make me feel at home. I feel like San Francisco is a place people have made their home by choice, rather than by birth, and that there’s an openness and accep-



PRIDE PARADE AFTERMATH

Year of admittance: 2011
Studies: MSc Software Engineering
Duration of the internship: 6-12 months
Best US memory: 4th of July weekend in Sonoma and Healdsburg.

Delphix
San Francisco, California
30 employees on site
220 worldwide
http://www.delphix.com/

SLEEPING OUTSIDE BY CLEAR LAKE

tance here I've rarely stumbled upon in other places.

Looking beyond the city, there is a vast ocean of opportunities and things to see and experience. Although I haven't yet traveled beyond the Californian borders, I have made two trips up north. For the 4th of July I went along with two friends to the outskirts of Sonoma. A friend of theirs hosted a huge Independence Day celebration, at a former boys-summer camp. A game of softball and corn hole, an outdoor screening of 'Back To The Future', a massive camp fire and a viewing of Sonomas fireworks from afar, was a few of the things we did before calling it a day. We continued that weekend with some wine tasting and relaxing pool-hang in Healdsburg.

Also this Monday I came back from an amazing trip to the north. A short road-trip up to Clear Lake with two colleagues and a friend was the start of the weekend. We spent two nights with YSC, Young Scandinavian Club, and the main event was a Crayfish party on the Saturday. Before driving down south on the Sunday, we had canoed, been wakeboarding and water skiing, and introduced the Scandinavian ways and traditions of a Crayfish party to those less experienced. The tent which we had set up upon our arrival was never slept in, since the temperature never dropped below 24 Celsius. Instead we slept outside on the dock. On our way back down to SF, we stopped by in Sonoma. We spent the day playing in a pool, driving around the vineyard, and shooting guns and rifles.

Although my journey has only just begun in San Francisco, I consider this being one of the most amazing things I've ever done. In two short months I have met the most fantastic and inspiring people, made wonderful memories and learned so much. I can't begin to imagine what the coming months will have in store for me.

GO GIANTS!

IN SONOMA PLAYING CORN HOLE

The Silicon Valley Startup Dream

By Ludvig Vikström

I have been working twelve hours a day for five weeks and I think I am finally starting to grasp what the Bracket product is all about. "Bracket is currently in stealth mode", is basically all you can read on the homepage when I am writing this. But in September we are scheduled to release our product publicly, so visit BRKT.com and have a look!

Bracket is working with enterprise computing in the public cloud. When I got that description of the company during the application process it didn't mean anything to me, but now it does. We're developing an advanced and really interesting product that eventually will be able to change how large corporations use data centers.

I'm working solo on a COGS optimization project for Bracket. It's a large project that involves many different pieces of software that has to be designed, built and integrated with each other. I've spent some weeks on designing and building a database that I'm now filling with large amounts of data about how we use our product. The next phase is to build tools that queries and analyzes the data, which I'm currently working on. We want to use this tool to make decisions about how we should hedge our hardware usage. Basically, this adds up to something of a portfolio optimization problem where we can trade and hedge for different scenarios. It really has some nice and interesting mathematical tweaks to it, and

Year of admittance: 2011
Studies: M.Sc Engineering Mathematics
Duration of the internship: 6-12 months

Bracket Computing
Sunnyvale, CA
About 50 employees on site
55 worldwide
www.brkt.com

since I'm the only person in the company working on this project it gives me a lot of freedom to try out whichever ideas I believe in. It was interesting and fun in the beginning, and it only keeps getting better and better.

When I think about what I have done during my Engineering Mathematics education at Chalmers University of Technology, I realize that the courses I liked best back then are also the courses that I find most useful now. I guess that is an indication that I have a job that I like.

I have now been in the U.S for about two months. I have stopped keeping track of all the miles that I have traveled, but it is a lot. My girlfriend, Rebecka, whom you can read about on another page in this magazine, is doing her internship down in Los Angeles so I have already taken that trip quite a few times, and I expect that there will be many more trips to come.

We started our journey with the yearly CETAC meet up in New York. We had a great time and after an intense period in school it was a break that we all needed. NYC is a great place to be, but also really intense so after that me and Rebecka headed to Boston to meet some of her relatives for a couple of days. It was great, and I can really recommend Boston. It is definitely one of the most european cities in the US, and that is something I already miss. We left Boston and headed over to the west coast where we got picked up by a previous year CETAC member. Two hours later we had bought his car, which was part of the plan. A few days later, we drove down to Los Angeles to spend a week there looking for an apartment for Rebecka. Los Angeles is a really nice city. I was really sceptical when we first got there since I had been there before and did not become that impressed, but now I really like it. It has a good city vibe and great beaches, something you don't get that much of here in the bay area.

Bay Area implies the area around the San Francisco bay, check it out on the map if you havn't already. If you're a CETAC member of 2014 you have a high chance of ending up here. I live in Mountain View, near the Google headquarters. This is 40 minutes south of San Francisco and pretty close to north is San Jose. I guess that Mountain View is a city, but it does not really have a city vibe, the same goes for Sunnyvale, where I work which is just south of Mountain View. North of here is Palo Alto, which is more fun since Stanford is there, hence a lot of students, bars and restaurants.

One day last week, when I woke up it was actually cloudy outside. I was really surprised and so disappointed. That wasn't what I expected from California weather. In a few hours, however, it was all gone, and we were back to steady sunshine and our regular 28 degrees Celsius. I think the predictability of the weather here is one of the largest differences compared to Gothenburg.

Today is a Friday, and I am about to leave work a little early but still late enough to enjoy some of our weekly Friday beer bash. I'm taking the five hour drive down to Santa Barbara today to meet up with some other CETAC members and spend the weekend there. Last weekend was the same story but then I visited our members in San Diego. We had a great time with surfing, good food and good company. Life here in California is not bad at all.

In the Heart of Silicon Valley Our Dream was Embodied through Visualization

By Henrik, Axel & Gustav

With this story we want to share some of our experiences in The Golden State. Even though the traditional gold rush in California is over since long, there is another rush currently taking place in Silicon Valley. Founded roughly 15 years ago, VMware employed over 200 interns this summer and has provided us with interesting things to do and a good amount of training. Life is not just about work but we have also had the opportunity to do a couple of memorable trips.

GUSTAV, AXEL & HENRIK

We are three guys interning at the big software company VMware, Inc. in the heart of Silicon Valley. VMware is one of the top five software companies in the world. The company was founded in 1998 with VMware Workstation as their first product. VMware's core business is its virtual computing software, which allows the user to run multiple operating systems on one computer simultaneously. All of us from CETAC have worked with VMware NSX, a network virtualization platform. Network virtualization is essential for abstracting away the underlying hardware in data centers and what is now called the Software-Defined Data Center (SDDC).

Two of us, Gustav and Axel, travelled to New York for eight nights before finally arriving in Silicon Valley. We went to see a lot of places; the Museum of Modern Art, Empire State Building, Times Square and Brooklyn Bridge to name a few. Once in a while, it is free for anyone to enter the Museum of Modern Art and luckily it was on the day of our arrival to New York. They have a decent amount of things on display and a beautiful building to walk around in. The view from Empire State Building blew our minds, it was incredible to see all of Manhattan and the surrounding boroughs. Times Square was intense, a lot of people and too many advertisements. Brooklyn Bridge is a fantastic piece of art, we walked from Manhattan over the bridge to Brooklyn to turn around and see the southern skyline of Manhattan, that was incredible. On one occasion we went to see a baseball game between New York Mets and San Diego Padres together with representatives from ASF, Julia, Robin and Tomas from CETAC. Baseball is a remarkably big sport in the US and for foreigners it can be hard to get why, in our eyes, it is not a breathtaking sport. On the other hand, it is a good social event; you go there, buy a hotdog and spend some time with friends. Another,

VMware
Palo Alto, CA
6000 employees on site
14000 employees worldwide
www.vmware.com

Name: Henrik Adolfsson
Year of admittance: 2011
Studies: MSc Engineering Physics
Duration of the internship: 6 months
Best US memory: Surfing

OUR POOL AREA

more exciting sport for us from Sweden is icehockey. Since New York Rangers played in the Stanley Cup final, we watched a couple of games at various restaurants. It was really exciting to be in the city at that time.

Henrik travelled directly to California with a week of free time before starting his internship. The first week in California was pretty intense. My friend Daniel and I rented a car and drove to Santa Cruz, but since the water was surprisingly cold and the windy weather we chose to keep on travelling along the famous Highway 1 down to Monterey and the Pebble Beach. There is a world famous golf court at Pebble beach that Daniel was crazy about seeing. Before we got to Pebble Beach we stopped by Monterey and looked at some Sea Lions and took a walk in the old fishing harbor, which had been converted into a walk with a lot of seafood restaurants. Pebble Beach was beautiful and the large clubhouse was incredibly fancy. We looked around at some legendary photos and trophies, snapped a couple of pictures and drove around in the area.

HELLO, DEER

We stopped when suddenly two deers appeared at the side of the road, to have a closer look at them. It turned out that they were quite accustomed to people and we managed to get as close as one meter away from them. On our way home we passed a town called Gilroy, also known as The Garlic Capital of the world. Turned out that the town really had earned that title. The whole town smelled like garlic!

Next up was San Francisco. Known here as simply SF. Daniel and I did everything a tourist should do, except the Golden Gate Bridge and Alcatraz thing, which we saved that for later. We took a ride with the old trolleys that goes up and down across San Francisco's hills, looked at the view of the entire city from Twin Peaks. Watched some Sea Lions on Pier 39, had lunch at Fisherman's Wharf and had tea in a Japanese Tea Garden in the Golden Gate Park. The Tea and Twin Peaks we did together with Madeleine from CETAC that lives and interns in SF. She had just arrived but took us to a restaurant which her CETAC predecessor at her company had showed her. SF was actually really cold specially when it was windy. Since both Daniel and me were just wearing shorts and shirts we decided to leave as early as 9 pm. The first week we also visited a lot of places in San Jose, the city we live in, to see what our home city had to offer when it came to restaurants and shopping.

We all started our internships on the 16th of June. On our first day, there were around 20 other interns, who also started their internship that day. The company has around 200 summer interns, most in our campus in Palo Alto but in other places like Cambridge as well. The first day was loaded with information, a walk around the campus and paperwork. On the afternoon we finally got to meet our teams, mentors and managers. We all work in different teams and different tasks but we are all on the same Business Unit, BU, called NSBU, Network

Name: Axel Johnsson
Year of admittance: 2011
Studies : MSc Computer Science and Engineering
Duration of the internship: 6 months
Best US memory: John Legend concert

Security BU. That is basically the old company Nicira Inc. that VMware acquired a couple of years ago.

We have been placed in different teams within the NSBU, and we therefore have different experiences from our work. Gustav and Axel both write automated tests that verify that NSX functions as intended, while Henrik works with developing tools for testing. Although we develop slightly different skills from our internships, we all learnt what it is like to work in a large-scale development environment such as VMware's NSBU.

Being enrolled in such a large internship program at a large company is not all about the professional training, but also about the cultural aspects of bringing together university talents from all across the globe. Our fellow interns at VMware are mostly students at US universities, but of various backgrounds. This means that we experience not only US culture, but other cultures as well during our time here. These experiences give new perspectives on things and are also valuable to those in an industry as global as IT, and especially anyone looking for an international career.

Apart from all the other interns at work, we have also met a lot of other people, mostly American girls. It is easy to be social when you are a Swede in the US. People seem to really appreciate us for some reason. Everyone seems to think that me, Henrik, looks like the movie character Thor from the movie with the same name. The average count is about three times a week. And some even want to take pictures with me. I don't mind being a look-a-like but after a while it gets kind of tiresome.

VMware really takes good care of us. They provide us with a really nice housing with pool, furniture, TV, balcony, furnished kitchen and everything, a shuttle that drives us to and from work, a big discount on lunch, free snacks and soft drinks and some other stuff like t-shirts and bags. We also get a discount on about everything from car rentals to resorts. Almost every week something is happening on campus, movie night with a really big outdoor screen, barbeques and concerts. Almost all other interns are just here for three months, which make it perfect for VMware to advertise itself as a good caring employer, so that the interns want to apply for jobs when they graduate.

We have only been in the US during one holiday so far, the 4th of July also known as Independence Day. Since we got the Friday off because of the holiday, we decided to rent a car and drive down to Los Angeles. We booked a hotel and drove along Highway 5 down to LA. We arrived late the day before 4th of July.

We all wanted to try surfing so we went to the beach the first thing on Friday morning. Since it was a holiday the surf shop on Santa Monica Beach closed as early as 3 pm. We found a smaller shop that rented out bikes and all kinds of stuff that was open until 6 pm and rented our boards from them. Without any lessons we went out in the water, soon to discover that there was no surfing allowed at the beach where we were. After a walk of a couple of kilometers we could finally start surfing. We were in the water for hours and finally Axel and Henrik managed to stand up on some waves surfing for real. We would have liked to surf some more but even if the water was warm it turned out that there are other reasons

Gustav Davidsson
Year of admittance: 2011
Studies: MSc Computer Science and Engineering
Duration of the internship: 6 months
Best US memory: Roaming the streets of NYC

GUSTAV, AXEL & DANIEL CHILLING ON THE BEACH

why wetsuits are a good choice. Our front that was rubbing against the board all they were really sore and Axel managed to get himself sunburned. Somewhat defeated we left the beach that day to prepare for the evening. We figured that the best place to celebrate 4th of July in LA was downtown. Turned out we were wrong about that. The whole of downtown was deserted with exception of the people living on the street; it was actually a proper number of them. We decided to drive out of downtown to get us some food. After our stomachs were full we drove up on Hollywood Hill to try and watch the big fireworks from there. It was a really nice view from there but we were not alone. It took as a good one hour to just get down again.

The day after the 4th of July we decided to go to Malibu Beach. We put the decision of surfing on hold since all of us were still sore. Axel did not even want to be on the beach because of his sunburn. Malibu was probably better for surfing because there were less people swimming and better waves. There were actually a lot of guys with good surfing skills. It was fun to watch but it was not that tempting because of the soreness. After a good day at the beach with a lot of tanning, soccer and people-watching we were picked up by Axel so we could go home and prepare to go downtown again. This time we were going to meet up with Julia, Rebecka, Ludvig, Thomas and Robin from CETAC. We visited two clubs in the Hollywood Boulevard district and had a really good time before returning to our hotel. We were going to get up early on Sunday to have time to drive back to the Valley on Highway 1. We were aware that it was going to take more than the six hours it took to drive to LA to get home. We guessed at around eight hours; turned out it took us almost thirteen hours before we finally returned to our apartments at 11 pm. At first the view from the road was astonishing, how the big hills steeps into the water and how the road keeps turning to find it's way through the difficult terrain. It was truly an amazing experience; but after driving like that for over five hours it really got to us. How every turn behind the mountain in front started looking like the last one got us longing for a regular highway. It was an amazing experience but we probably will not do it again, actually maybe Axel will, since he was asleep for the biggest part of it.

HENRIK BY HIGHWAY 1

We have done a lot of other things as well; Gustav has bought a car, and road-tripped with an Indian friend and co-intern to Berkeley to watch some quality soccer when Real Madrid played against Inter Milan. They also spent time with some Berkeley students at the Marina, which has beautiful views of the bay and San Francisco. Having a car makes it possible to make the most of our time in the area, as it is the most convenient way to get around and see the Valley.

We still have a lot of things to experience. It feels like our year here has just begun. We are planning to go to Lake Tahoe, Las Vegas, San Diego (to visit Julia, Robin and Thomas), Hawaii and to visit The South. We are certainly enjoying life here and are very grateful for this amazing opportunity.

AT WORK

Almost in San Francisco

By David Lidberg

After starting my summer with a thrilling visa process and some intensive relaxing, the day suddenly came when I was to leave Sweden for Sunnyvale, California to start my internship at Rapiscan Systems. Since I got my internship pretty late, everyone (except Benjamin, of course) had already left, I was traveling by myself and had cleverly booked two separate tickets to get me all the way to San Francisco, saving quite a bit of money. This did lead to a rather terrifying trip and some nightmarish 37 hours later I finally arrived in Sunnyvale. Sunnyvale is not actually San Francisco, but nobody knows about Sunnyvale. Therefore, I much rather stay in San Francisco.

Before I came here, I knew pretty much knew nothing about Sunnyvale, and when I finally arrived in the heat I immediately thought to myself that this could pretty much be heaven or hell. After having been here for a month, I've realized that it's neither, and me not knowing anything about the town was mainly due to the fact that there is not much to know about it. Sunnyvale is basically just a huge grid of one-storey houses separated by rarely less than three lanes of traffic in each direction.

In the middle of this grid, me, Benjamin Waubert and the CETAC icon Mattias Appelgren (and soon also Ludvig) share a spacious apartment at Rockefeller Dr, fashionably furnished with a sofa on the balcony, a WiFi modem in the corner and nothing else. The minimalistic style, trendy as it is, is not very convenient, and so we're constantly on the hunt for furniture on Craigslist. The furniture isn't exactly flowing, and in the meantime, we've filled our living room with a couple of Benjamin's friends from home. We've got American freedom up to our necks here; it's a great place to call home and use as a starting point for our weekend escapades. Oh, and it's also pretty close to work so every morning I bravely ride my thrusty bike to work, going up Mary Avenue, looking out for number one among the freakishly large cars.

So while itself Sunnyvale isn't exactly buzzing with excitement, California overall seems better in that regard. There does seem to be some signs of life in nearby Palo Alto, where I suppose the students at Stanford go to hang out. Highway One really is exhaustingly beautiful, and I hear there's some surfing to be done here somewhere. There's also talk about good biking in the, but I don't really care. To me biking is merely a mode of transportation, and about as exciting as baseball. However, last weekend we stuck some flowers in our hair and went to San Francisco, barely an hour away, and I loved it. Seriously. It's a really cool city, full of gentle people, especially in the summer time, even though I got the feeling that it's a lovely place any time of the year. I'll definitely be back, and I suspect I'll hang out quite a bit in San Francisco during my year here.

Year of admittance: 2011
Studies: Msc Engineering Physics
Duration of the internship: 1 year
Best U.S memory: Going to San Francisco for the first time.

Rapsican Systems
Sunnyvale, CA
60 employees on site
900 employees worldwide
http://www.rapiscansystems.com/

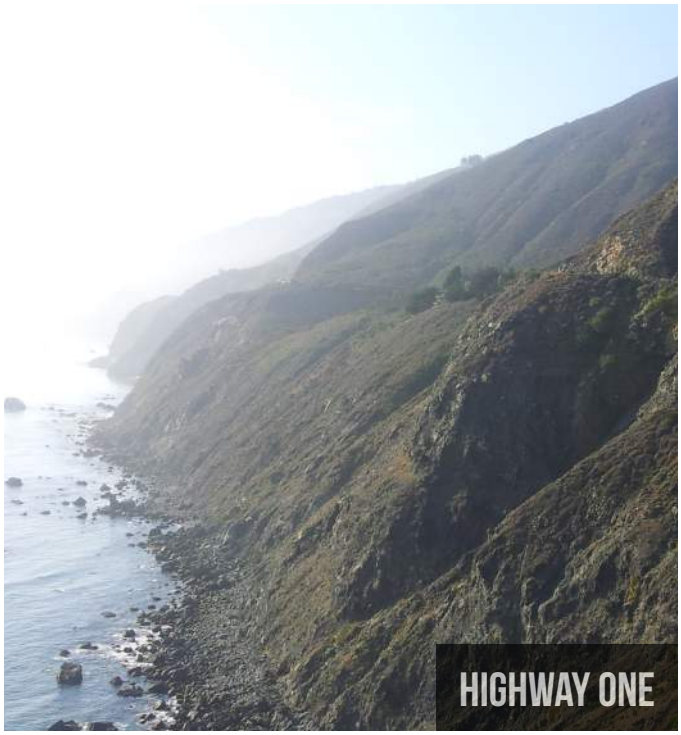
ME IN FRONT OF ALCATRAZ

When I'm not going to San Francisco I'm most probably working. Rapiscan Systems is a leading company within security screening, and the project I'm currently working on is developing the next generation of those X-ray machines you put your bag through at airports. While most of the office looks depressingly similar to the corridors back in Chalmers, apart from the huge warehouse-style lab area. It's very interesting work. I honestly didn't expect to work so closely with actual Physics, but at Rapiscan I really feel I do! It's kind of related to the courses in Solid State Physics and Subatomic Physics. I spend a lot of time looking and analyzing different X-ray spectra, working mostly in Python (with a touch of Matlab), but I also do data collection when I need to.

SUNNYVALE WITH MORE TRAFFIC

The team has a weekly meeting every Wednesday, where we present what we've been working on for the past week and together we discuss problems and solutions. I was kind of thrown into the project at full speed, and everyone on the team is really bright, so during the first few of these meetings I was pretty much just awkwardly sitting there. However, asking questions is key and everybody, not least my supervisor Martin Janecek, is always happy to help. I'm learning tons, and since I have to write documentation on what I've worked on every week I'm getting pretty good at writing summary reports. The courses in Experimental Physics has been good training for this and if I thought I was a quick writer before, by the end of my year here, I'll probably be writing reports in my sleep. Last week, I presented my first real results, even though it took a little while and I'm really starting to feel that I'm contributing, and that is a pretty good feeling.

To summarize, things are pretty alright around here. Big thanks to Martin and the rest of the team at Rapiscan and to the CETAC folks involved in setting up this whole thing. It's gonna be a great year.



HIGHWAY ONE

Ca-li-fornia!

By Benjamin Waubert de Puiseau

About a year ago, I was accepted for a position on the board of CETAC. A year, and a lot of hard but rewarding work later, I find myself sitting on the balcony of my apartment in the Bay Area writing these words while winding down after another exciting day at Infineon Technologies, and all I can say is that it was all well worth it.

I arrived to the US about two months later than everyone else after having hit about every possible road bump in the process of acquiring my visa. Since the outcome of all the delays in my visa process was a pretty enjoyable 2 month vacation that I hadn't planned for I'm not really complaining. But as a result of this, I arrived in the US on a Saturday and started working the following Monday, so I pretty much hit the ground running. This could have probably caused all sorts of problems if it wasn't for my fellow CETAC members David and Ludvig who had already found an apartment and a car allowing me to make the commute to Morgan Hill.

I'm currently living with David Lidberg and ever quotable CETAC legend Mattias Appelgren in a nice but unfurnished apartment in Sunnyvale, in classic Californian fashion; there are a bunch of pools and tennis courts in close proximity. Sunnyvale is a quiet suburb between Palo Alto and San Jose. When I initially moved here I actually thought that I would bike to Palo Alto and San Jose every now and then, but I then quickly realized that Sunnyvale is actually its own city roughly the size of Borås (which unfortunately isn't the only similarity) consisting solely of small houses and apartment complexes - good thing I already had a car. Also, with the introduction of services like Uber and Lyft cab rides here are very affordable and never more than a few minutes away.

Much like the intro tune of The O.C. my US life so far has mainly revolved around the 101, I spend about an hour each weekday on that bloody thing and have developed a bit of a love-hate relationship to it. Roads here are huge but generally not very well built and the traffic is heavy. This combined with driving a rather old car that starts shaking at about 65 mph and some jet lag resulted in me genuinely fearing for my life the first few morning commutes. But after getting used to the "just-go-with-it" mentality of the traffic over here, things got a lot

DRIVING DOWN THE 101

Year of admittance: 2011
Studies: MSc Engineering Physics
Duration of the internship: 1 year
Best US memory:Trying out Sporting Clays in Morgan hill

Infineon Technologies
Morgan Hill, California
27000 World Wide
www.Infineon.com

smoother, and I now kind of enjoy drinking coffee while incoherently shouting along to previously mentioned Phantom planet tune on my morning commute - "Driving down the 101, California here we come. Right back where we started from, Ca-li-fornia!"

Working at Infineon Technologies has been a great experience so far. Infineon is a relatively large company that produces semiconductor based devices to a variety of markets, where the main emphasis being on automotive and industrial electronics. The branch of Infineon, which I work at is located in Morgan Hill, and actually used to be owned by Ericsson back in the day. Here the focus is on LDMOS based RF Power transistors used mainly in cellular base stations. Pretty much everything is done in-house here and Research & Development, Production and Quality Control are all under the same roof, which makes it a very interesting work environment for an intern.

I'm working with the Production Engineer team. My work involves a nice mix of statistical analysis, to determine how different parameters in production correlate to yield numbers, and more hands on RF-transistor testing and troubleshooting in the production area, which is all located in a huge clean-room. RF technology is a new field for me, and I learn a ton each day. There is still a lot to be learned but unlike in quantum and subatomic Physics most concepts are easy to grasp so the learning process is quick. Also, being surrounded by a team of really bright and friendly people makes it easier to make progress. I have only been working for two weeks and I have, of course, merely scratched the surface yet, but I already know I'll enjoy working here.

ME AT WORK

I have tried to use my lunch breaks to see a bit of Morgan Hill, and especially try out every single Mexican restaurant around. And there are a lot of them. This has resulted in a culinary journey with experiences ranging from the best pulled-pork burrito I've ever had to one god awful cheese drenched plate of nachos. I have also visited the local shooting range with a couple of interns from work for some sporting clays or "golf with a shotgun", which basically means firing shotgun shells through a couple of completely innocent clay pigeons through a course of about 20 shooting stations, in which, to my pleasant surprise, I was pretty good at.

SHOTTING CLAY PIGEONS

Since I, at the time of writing, have only spent one weekend here I have not been able to explore a lot of the surrounding areas, but it's clear that there are a lot of things to see and do. So far I've spent a lazy Sunday afternoon strolling around in San Francisco with some friends, we all quickly agreed that this is a place we could imagine living for some time. Being as often publicly depicted as San Francisco, the city lives up to its reputation surprisingly well, it is simply a really cool place.

Having put the hectic initial period of getting settled here behind me, I'm now looking forward to continuing my work at Infineon and exploring the Bay Area and everything surrounding it. Hopefully I will also get a chance to visit all my fellow CETAC members along the west coast during my stay in the US. To wrap this up, I would like to express my gratitude towards everyone in CETAC 2014 for putting in all the work to make this journey possible.

CETAC's Kick Off Trip to Stockholm

By Simon Andersson

On an early September morning all of the members of CETAC 2014 gathered at the train station in Gothenburg. It was time for the annual kick off journey to our capital city Stockholm. During two days we would meet with potential partners of CETAC and together set up a plan for all the work for the year in front of us.

Despite the early morning the energy and spirit on the train trip was good. People where planning and preparing for their meetings with the different companies. Together in groups we discussed how to pitch CETAC and how to make the companies in Stockholm interesting of attracting engineering students from the front side of Sweden. Well at our destination some groups went directly to their meetings while some of us went to check in at our accommodation at Skeppsholmen in the center of Stockholm. Waiting there was a couple of boxes of the smoking new CETAC Trainee Report 2013. Reading the stories from our predecessors in CETAC living and working in the states really got

everyone excited and motivated for the year we had in front of us before being there ourselves next summer.

Except the meeting with potential partners of CETAC the trip to Stockholm also including career planning with the Internship Coordinators in CETAC. Before the journey everyone had updated their resumes and cover letters. Together with the Internship Coordinators everyone then talked about their plans, ambitions and goals for what kind of internship we where pursuing in the land of free. This was the first small step on the journey to land an internship. Hopefully all of the dreams and ambitions that existed then where met when we now almost a year later all living in different places in the US.

Not to forget that this was a kick off trip we also had to get to know each other better and have some fun. On the night we went out on a really cozy restaurant in the hipster crowded area Söder. Located on the bluffs of the water inlet to Stockholm we had a great view. The lack of meat on the menu made some people skeptic, but in the end of the night everyone were very satisfied with the vegetarian food.

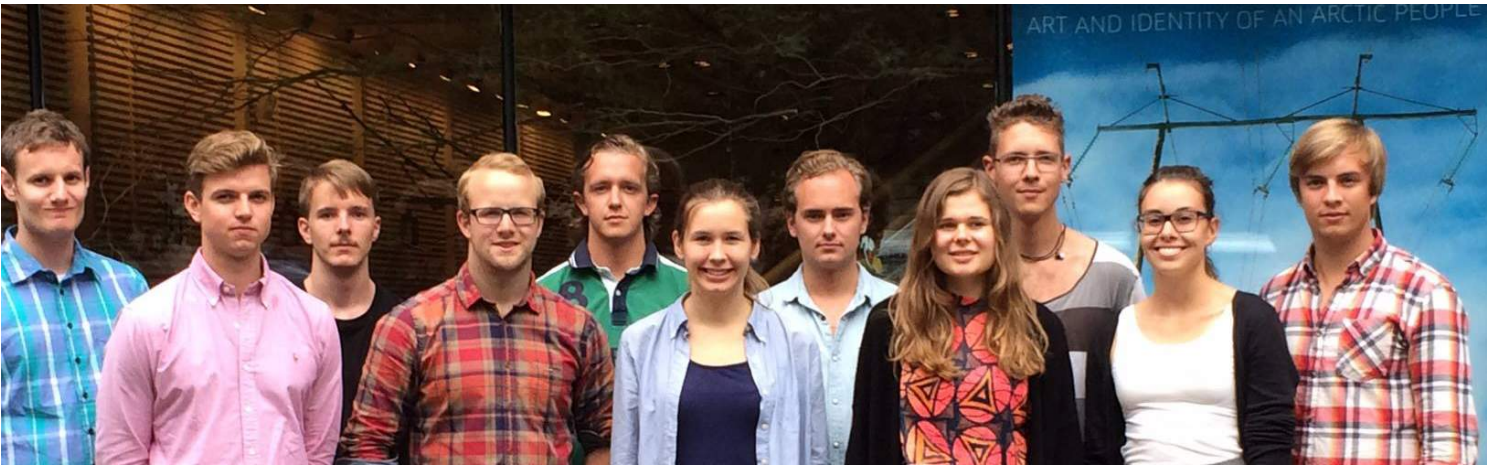
To sum up, the journey to Stockholm was successful and pleasant experience. We got some good deals done and valuable contacts to continue to work on. This was the first steps that took us everyone where we are today which you could read about in the rest of the Trainee Report.

A Well-deserved Vacation in the Big Apple!

By Tomas Selldén

The feeling to meet up with all members of CETAC 2014 in the USA, knowing that we all had succeeded to get an internship, is hard to describe. It was a feeling of happiness and excitement but also anxiousness, since you realize that you are going to exchange the safety at Chalmers University of Technology for an internship in another continent.

International Students Residence, was the name of the hostel we lived in. It was located in the north-eastern part of Manhattan, in an area called Harlem. Even if it is a couple of blocks from Manhattan downtown we had time to do a lot of sightseeing since the public transportation is so good. For example, we visited the Statue of Liberty, Empire State Building, Times Square, Central Park and many other famous points of interest.



I arrived two days later than the rest of the group and when meeting all other students it seemed like they all had problem with their neck, twisting and stretching their neck all the time. I never asked why but I was soon to find out. Walking around in downtown Manhattan is amazing but your neck is going to suffer. All skyscrapers make you look up in the sky all day long without thinking about how you are feeling since you are so fascinated of the buildings. They are so high and there are so many of them, it is hard to describe for someone that has not been there.

Fortunately for the ice-hockey fans we were in New York whilst New York Rangers played Stanley cup final against Los Angeles Kings. So three nights we were in different sport pubs to watch the game. Unfortunately Los Angeles was too good and not even Henrik "The King" Lundqvist were able to stop them from winning the Stanley Cup Trophy.

A tradition that CETAC always do in New York is to visit ASF (American Swedish Chamber), which is an organization that helps us with the visa process. They invited us for lunch and gave us practical tips about living in USA. We also had the chance to ask question about living in USA. The meetup was very appreciated of all members, and ASF even invited us to a baseball game together with our sister organization USA-SIP. Even if we had different opinions whether baseball is a fun sport to watch we all agreed that the atmosphere were fantastic. It feels like you are on a big party. We were watching New York Mets, which is not one of the biggest team in the baseball league, still they had an arena with seats for over 40 000 people and everyone was cheering and shouting all the time.

We, the members of CETAC 2014, had an amazing time in New York and still we had not even started our real adventure. That started when we had to split up and leave for our final destinations. We all have had different experiences and I hope you will be entertained and inspired when reading about them.

THE AMERICAN-SCANDINAVIAN FOUNDATION

The ASF is a publicly supported, non-profit organization housed in Scandinavia House, New York City, which serves as the Nordic Center in America. Our organization strives to promote international understanding and cross cultural exchange between the United States and the Nordic countries.

The Chalmers Engineering Trainee Appointment Committee (CETAC) and The American-Scandinavian Foundation began its fruitful relationship in 1980. Since then, the Foundation has provided visa sponsorship for Committee members studying electrical, electronic and computer engineering.

What is the Foundation's role you may ask? Well, the Foundation has been designated by the U.S. Government as an Exchange Visitor (J visa) program sponsor for on-the-job training. Any student who wants to work in the United States must have a visa and that is where we come in. The Foundation receives the student's application and the Form DS-7002 Training/Internship Placement Plan from the U.S. Firm. Once we make sure that the internship position is appropriate and meets program requirements, ASF issues the U.S. Government documents that make it possible for students to come into the United States and obtain this on-the-job experience and receive income. Once in the United States the students receive a meaningful internship and in turn provide the host firm with a highly motivated, skilled individual who is eager to learn and contribute to the particular company's growth. We at the ASF understand how much work and effort the members of the committee put into obtaining their assignments therefore we try to help in every way.

It is not only the professional growth you experience during your summer in the United States it is also your personal evolution. Year after year, students mention on their final reports how much they enjoyed themselves, how many friends they made and how many things and people they got to see and meet. It is fascinating to read about your personal and professional accomplishments during such a short time span. We anticipate this to be a natural consequence of this program and hope that the friendships you make last a lifetime.

It has been a great pleasure to work with this particular group because of the infinite energy and zeal they bring to the program. The positive feedback we continue to receive at the conclusion of a student's internship program is well worth the effort.

We at the American-Scandinavian Foundation wish you continued success in your future endeavors.

Tatiana Pashman
Director of Internship & Training Programs
The American-Scandinavian Foundation

Chairman Speaks

Early May last year, we started off as a group of students with a common goal, which was to travel to the US and put our knowledge from Chalmers into use through an internship. We were all eager to get work experience within our field of study together with grand visions of living the American Dream, at least for a limited amount of time. Now, a little more than a year later, I, as the chairman of the organization, can proudly say that we accomplished that goal together. This summer, 17 students from Chalmers University of Technology in Gothenburg boarded a flight to take us across the Atlantic Ocean for what would hopefully be the best time of our lives.

The journey to get here was not easy. There were definitely some bumps in the road along the way. However, with all the amazing people in the organization, whom I now consider my friends, the ride felt enjoyable and manageable.

Looking back at the past year, I can say that we accomplished many things even though the year passed very quickly. We have had a big release of our Trainee Report, attended career fair days and organized lunch seminars together with some of Sweden's biggest companies. This is all done to spread the word of CETAC across Chalmers, so more students have the chance of seizing the opportunity that CETAC is. Everything done within the organization takes a lot of dedication and hard work, but there is a lot to gain from the CETAC experience. First and foremost it is a unique travel to North America to intern at one of the world-wide recognized companies that CETAC works together with. The work with finding an internship consists of taking several interviews over VoIP, which forces you to learn how to write a proper resumé and cover letter, how to prepare before an interview and also how to act during it to present yourself at your best. I have found new friends from different parts of the Chalmers campus, which I probably would not have met otherwise. So far, with about 10 months left in San Diego at my internship, I would call joining CETAC the best decision I have made during my years at Chalmers, a decision which will help me and the rest of of the members of CETAC a lot in the future.

When we get back to Sweden, to finish our studies, we will be allowed to join CETAC Alumni. CETAC Alumni is an organization to keep contact with people that have crossed the Atlantic Ocean, both past and future members. The Alumni network is a great way to reach out, to grow new connections and share our knowledge to the CETAC organization by working as a sounding board and to ensure continuity within the organization.

There are so many people and organizations to thank, too many to be named here, but I am sincerely grateful for all the help we have received during this year. Without you, we could not have made it. Finally, I would like to thank all the members in CETAC 2014. We made this journey together and we are now living the American Dream! And to you, who are reading this now, I would like to encourage you and your friends to join the amazing organization that CETAC is. You will not regret it, I promise!

Robin Hammaräng,
Chairman CETAC 2014

CETAC ALUMNI

CETAC Alumni all have a couple of things in common. Not only do we (or soon will) have a degree from one of the top technical universities in northern Europe. Along with our studies we also had the privilege to work hard for something we really wanted as a great complement to our degree. Even more importantly; we have all practiced our engineering skills during a couple of months or more. This in a foreign country with different language and culture.

I strongly believe that all things mentioned makes us extremely capable to solve present and future problems. I also believe that when great people come together, even greater things happen. CETAC Alumni exists to seize this opportunity of synergy. We have members in all stages of their career, who can all benefit from each other.

CETAC Alumni was founded in 2006 and has ever since worked to create a network of former CETAC members. We today have well above 100 members, with members from CETAC 1973 and forward, and is growing steadily every year. Our activities includes arranging dinners and get-togethers, helping CETAC attract new members and provide financial support for CETAC. Our main purpose is to be a social platform for former CETAC members to enable sharing of ideas, memories and work opportunities while having some fun!

CETAC and CETAC Alumni are helping each other to grow and to improve. By joining CETAC you will not only give yourself the chance of an internship in the United States, you will also provide yourself with the opportunity of joining the Alumni network. By doing so you will have a unique chance of meeting old and new friends who shares your past, and can lead you to new and exciting experiences!

Tomas Gille,
Former Chairman of CETAC Alumni

INDEX of advertisements

Thank You

On behalf of the board and members of CETAC 2014, we would like to thank all our corporate partners and other contributors that made this project a reality.

Our Corporate Partners

Aitellu Technologies AB
Autoliv AB
B3IT
Broccoli Engineering AB
Brother International Sweden AB
Carlsberg
Data - och Informationsteknik, Chalmers
Dixie PR
EATON HOLEC AB
ELFORSK AB
Emerson Process Management AB
Engineering Mathematics Master-sprogrammet
Experis IT
Firma DIGITAN
Göteborg Energi AB
Harry Sjögren AB
HMS Industrial Networks AB
Husqvarna AB
Ingenjörsfirma G. Karlbom AB
Inresonance AB
Institutet för rymdfysik IRF
Institutionen för Fysik och Teknisk Fysik
Institutionen för Kemi- och Bioteknik, Chalmers
Institutionen för Signaler & Sys-tem, Chalmers
Institutionen för Tillämpad IT, Chalmers
Jeppesen Systems AB
LEAX Arkivator
NIBE Industrier AB
Pac2 AB
Progressive Marketing AB
Sibbhultsverken
SICS (Swedish ICT)
Sigma Kudos Sweden AB
Sigma Kudos Sweden AB
Swedish Match North Europe AB
Swedish Microwave AB
Systemite AB
Teknisk Matematik
Trilogik Konsult AB
Uddevalla kommun
Umetrics AB
Vehco (vehicle communications)
Volvo IT

Trainee Hosts

Amerden Inc.
Anametrix
Bracket Computing
CBRITE Inc.
Delphi
Delphix
Infineon Technologies
NVI Inc.
Rapiscan Systems
Tribogenics
VMWare

Other Contributors

Tatiana Pashman

Laurent Stackpoole
The American-Scandinavian Foundation

Cecilia Kullman
Swedish-American Chamber of Commerce

Per-Anders Träff
Kammarkollegiet

Jana Madjarova
Head of the Engineering Physics Program

Karin Markides
President of Chalmers University of Technology

Christer Ringblom
Elanders tryckeri

Chalmers Career Service
CETAC Alumi
CETAC 2013
CETAC 2015
USASIP 2014
Josef Hansson
Boel Nelson
Kristin Edvardsen

Stipendier till exjobb inom Elkraftteknik

ELEKTRA finansierar för närvarande ca 30 forskarstuderande på ett antal institutioner på Chalmers Tekniska Högskola, Kungliga Tekniska Högskolan, Lunds Tekniska Högskola, Luleå Tekniska Universitet och Uppsala Universitet. Avsikten med ELEKTRA är att långsiktigt stärka konkurrenskraften hos elföretag och tillverkande industri, och samverkan mellan industri och forskarstuderande stimuleras.

Läs mer på: http://www.elforsk.se

TRAFIKVERKET

ABB

ELFORSK

Energimyndigheten