

INTERNSHIP REPORT

2021

Chalmers Engineering
Student Internship
Program

cesip

Electricity for Societal Development



Electricity for Societal Development is one of the profile areas within Chalmers Energy Area of Advance. The vision of Electricity for Societal Development is that Chalmers will be leading the process of **transforming the electric power systems** to become sustainable and efficient, and at the same time meeting the changing societal challenges. This will be done by proposing, investigating and evaluating new solutions for reinforcing and transforming the power system and its associated infrastructures.

CHALMERS | Area of Advance
UNIVERSITY OF TECHNOLOGY | **ENERGY**

Efter studier hos oss förstår du både helheten och detaljerna
– du blir både en hett eftertraktad generalist och specialist.



Bli en duktig problemlösare, sök Teknisk fysik på Chalmers.



STUDY A MASTER'S PROGRAMME WITHIN

MECHANICAL ENGINEERING

AT CHALMERS TO BE WELL-PREPARED TO CREATE AND DEVELOP PRODUCTS AND SYSTEMS THAT IMPROVE SAFETY AND QUALITY OF LIFE FOR A GROWING POPULATION

- APPLIED MECHANICS
- INDUSTRIAL ECOLOGY
- MATERIALS ENGINEERING
- MOBILITY ENGINEERING
- PRODUCT DEVELOPMENT
- PRODUCTION ENGINEERING
- SUSTAINABLE ENERGY SYSTEMS

CHALMERS
UNIVERSITY OF TECHNOLOGY

The background of the page is a photograph of a tall, dark industrial smokestack with a white top section, standing next to a modern glass skyscraper. The sky is a deep blue, and the building's windows are lit up, creating a contrast with the dark exterior. The smokestack has a circular observation deck or platform near the top.

What is CESIP?

CESIP, Chalmers Engineering Student Internship Program, is a non-profit student-run organization at Chalmers University of Technology, in Gothenburg, Sweden. It is, in its current form, the result of a merger of CETAC and AMCIP, which both were founded over 50 years ago. Our mission is to bring well-educated Swedish students and high-tech North American companies together. Over the years our program has made it possible for thousands of students to gain practical experience with companies such as Google, Microsoft and NASA, just to name a few.

One of our primary goals is to foster international business cooperation. Therefore, we make sure to only bring highly motivated and technically skilled students to the participating companies. With a different perspective, fresh ideas, and burning interest we are sure to make solid and memorable contributions.

This cultural exchange is also of great benefit to both parties. Consequently, many of the companies working with CESIP has been doing so for years.

Who can apply?

Students at any of the five-year programs at Chalmers University of Technology. You must have accrued at least 120 credits and have completed your bachelor thesis before beginning your internship. This means you'll apply to CESIP during your second or third year here at Chalmers.

Don't hesitate to visit our website at www.cesip.se or contact us at contact@cesip.se for further information.



| | |
|----|---|
| 6 | Apply to CESIP |
| 7 | Letter from the Editor |
| 8 | The President Speaks |
| 12 | Voices of Support |
| 12 | Chalmers University of Technology |
| 14 | Sandvik Group |
| 15 | Words from the ambassador in Canada |
| 16 | ABB Sweden |
| 20 | From our Current Interns |
| 22 | The Precarious Road to the Golden State |
| 24 | Very Long Broadcasted Internship |
| 26 | Validitet i rekryteringsprocessen - Refapp |
| 28 | Blast from the past |
| 30 | Driving the American Dream |
| 34 | Itacha is Gorges |
| 36 | Inside Austin City Limits |
| 38 | Interview with CESIP alumni |
| 44 | Greetings from the board of CESIP 2022 |
| 45 | Company Index |



Apply to CESIP

An internship in North America does not only offer students valuable work experience, but also insight into different cultures. Excellent English communication skills are also highly sought after, and often a necessity. These are all qualities you will gain as a member of CESIP.

CESIP encourages all motivated students who are enrolled at a five-year engineering program and wish to get a little extra out of their studies, to apply as members.

The duration of CESIP internships usually stretches from eight weeks to a year. The host companies vary greatly in size and area of business, and the

work assignments will of course vary depending on the intern's field of study.

CESIP, which has been active for more than 55 years, consists of 31 students at Chalmers University of Technology, of which 22 are members and 9 are board members. The board is responsible for the overall management of the organization in addition to the specific tasks for each position.

The application period for internships starting the summer of 2023 will be either late spring or early autumn 2022.

Prior to your internship you will be active within the organization for one

year, helping CESIP in both finding and funding the internships you will later apply to. This is an exciting year where you will get to know students from all over Chalmers as well as prepare yourself for your upcoming internship.

**CHALMERS ENGINEERING
STUDENT INTERNSHIP PROGRAM**

Letter from the Editor

At the time of writing, I have a hard time fathoming just how much has changed since I joined CESIP. Without a doubt, the last 1½ years have been something out of the ordinary for all of us. Now, our interns are perhaps finally on their way to their internships in the US. Although it has been far from hassle-free, some have managed to get visas by jumping through hoops and quarantines across the world. And maybe soon, we will see visa interviews being conducted as normal at the embassy here in Sweden. CESIP is an organisation with a great heritage, and in this edition of its Internship Report you can read about previous internships conducted throughout CESIP's long history. Next year, we hope you can read about the experiences of our current and future interns. I had a great time reading about old experiences from our archives last year, and I hope you will be just as inspired by the experiences this year's editor has selected. Did you know our organisation has roots leading back to the '50s?

When I applied to join the board of CESIP, the pandemic was something distant, an epidemic on the other side of the world. But things turned around fast, and just weeks later life would change in ways few expected. The day the board members were selected was also the day the first case of the novel coronavirus appeared in Sweden. Within days, the World Health Organisation declared Covid-19 a pandemic, and it was decided that all studies at Chalmers were to be conducted from

home. About a year and a half later, I've just begun my internship. Luckily, my employer is a remote-first company which allows me to work from Sweden. Instead of moving to Boston, I've moved to Stockholm where I currently live in the co-living space Hus24. An adventure on its own, albeit something different than I expected when originally joining CESIP.

Restrictions which at first were supposed to last for weeks, lasted for months, and eventually over a year and half. I remember feeling lucky I didn't join CESIP a year earlier, because that meant I would get to go to the US, unlike the ones before me. Little did I know what life would be like for the period leading up to now, and that the US would not let vaccinated travelers into the country until November 2021. But in retrospect I am grateful for how life has turned out despite the pandemic; the strive towards a job in the US has been a beacon of light toward the end of the pandemic, and I have had the privilege of working with some fantastic people along the way. I want to thank everyone who I've worked with on this journey. Thank you to the board of CESIP 2021, who became not only my colleagues but also my friends. Thank you to all the hard-working members who made this report possible. Thank you, Davit Petrosyan, for all your assistance with the internship report last year. Thank you, Stefan Bengtsson, the principal of Chalmers, for supporting our endeavors. Lastly, thank you to our host companies for

giving CESIP members unforgettable experiences and opportunities.

To tackle the global challenges facing our world, international collaboration is key. As the world is being vaccinated, and the pandemic is getting somewhat under control, I am hopeful that we will see travel restrictions being eased and CESIP once again get to do what they do best - foster relations between Sweden and North America, and give Chalmers students the experience of a lifetime.

EMANUEL ENBERG
EDITOR, CESIP 2021

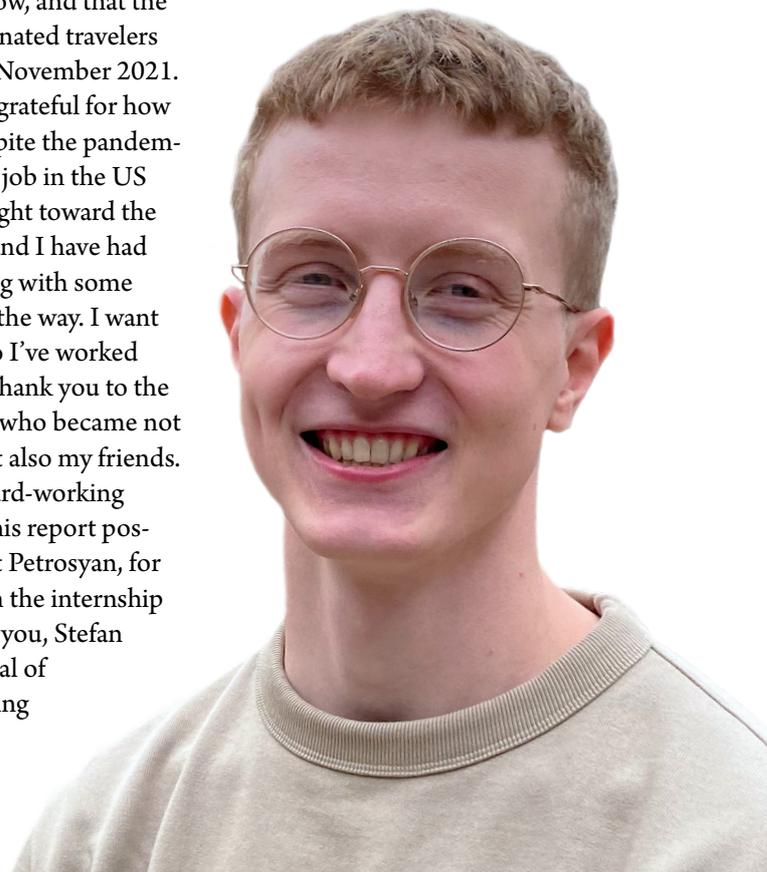


Photo: Jonathan Jilg

Printed in 1200 copies.
Published by Chalmers Engineering Student Internship Program.

Design and layout by Andreas Helgesson, Editor CESIP 2022.
© Copyright 2021 CESIP.

contact@cesip.se

Photos courtesy of CESIP, I-Bild and Unsplash unless otherwise stated.

Chalmers Engineering Student Internship Program
Chalmers University of Technology
Kemivägen 9, c/o CESIP
412 58 Gothenburg

The president Speaks

Back in March of 2020 when I was offered the position as president of CESIP 2021, I was beyond thrilled. I had read several internship reports of previous years prior to my application, and I imagined almost unlimited possibilities of what this position could offer. However, it was equally important to understand that we would have a few challenges to overcome.

Up until when me and the rest of the board members were elected, the organization CESIP did not exist. Back then there were two organizations at Chalmers- CETAC and AMCIP- with the same purpose and goals as CESIP. The board of CETAC and AMCIP planned the merger of their organizations and elected the first board members of what would become CESIP 2021. Because of this reason, I was even more excited for the time that I was going to spend at CESIP, as now we would operate on a broader spectrum, in a larger variety of branches.

I think it is equally important to

mention that the merger also meant that we would most likely have to work harder to make all the pieces fall together in the organization. On top of that, during the spring of 2020 the COVID-19 shook the modern world in a way which no one was prepared for. This caused a level of uncertainty for the future of our operational plan, as we were suddenly unsure if there was a possibility of us traveling to and working in North America.

During the beginning of the first semester in autumn, after we elected the members of CESIP 2021, we began working more on our own. One thing that I quickly realized was that even though we had to face challenges that our predecessors didn't have to deal with and there was an ongoing pandemic on the world, I was not worried about us being able to fulfill the purpose of the organization. The reason for that was after being acquainted with the rest of the board members, I understood that they were going to work hard regardless of what situation that we would be in. There were periods when neither the board nor the other

members were able to meet in real life, we had difficulties finding internships and we still did not know if any of us would be able to travel to North America, and despite all that, due to our focus, determination and sheer will, we continued working with everything that we were supposed to do, and for that, I am very proud. Right now, we have members who are preparing their trips to North America and people who are working remotely, which in a way demonstrates that we were able to fulfill parts of our purpose.

I want to end my remarks by thanking all the members of CESIP 2021 for their contribution to the organization, and of course, for all the fun we managed to have together during this period. I am grateful for the members who continued working with us, despite not being able to receive an internship. And right now, after seeing how well the new board has begun their journey, I am extremely excited for the future of CESIP.

DAVIT PETROSYAN
CHAIRMAN, CESIP 2021



Thank you I-Bild for the fantastic photos!





INHOUSE TECH

Vi projektleder och konstruerar.

BRO - ANLÄGGNING - HUS - INDUSTRI

www.inhousetech.se

MICRO SKIMMERS · MINI SKIMMERS · TDS SKIMMERS · TDS PUMPS
HYD. POWERPACKS · HOSE PACKAGES · OIL BOOMS

Oil Spill Response Products

Skimmers & Pumps with capacities up to 140 m³/h



www.foilex.com



For now.
And for next.

Tillsammans för en hållbar värld

Bättre design och mindre avfall sluter cirkeln och bevarar mångfalden i våra skogar.

Med blick för hållbarhet möter vi utmaningar, både för vår egen och kommande generationer.

Redefining Packaging for a Changing World.

The Power of Less®



Carryline®

Carryline erbjuder allt från enskilda transportörer i aluminium eller rostfritt och kompletta system med installation och serviceavtal. Carryline erbjuder också ett omfattande profilbyggsystem med aluminiumprofiler.



www.Carryline.com



SIBBHULTSVERKEN

SINCE 1891

Alla tillsammans. Från studier till jobb.

I Unionen Student kan alla vara med som siktar på jobb i det privata arbetslivet, oavsett vilken utbildning du går och vilken befattning du får. Det är vår idé och vår styrka. Den gör oss till Sveriges största fackförbund med över 700 000 medlemmar, 30 000 förtroendevalda och det bästa stödet både när du söker extrajobb under studierna och när du tar steget ut i arbetslivet. Vi granskar ditt cv, förbereder dig för jobbintervjun, rådgör kring ingångslön och ger dig 96% rabatt på avgiften ett helt år när du tagit examen och börjat jobba. Allt för bara 100 kronor hela studietiden.

Trygga vägen till arbetslivet på unionen.se/student

UNIONEN
STUDENT

 Unionen Student
RING UNIONEN 0770-870 870
E-POST kontakt@unionen.se

100 kr
för HELA
studietiden

Vi hjälper er med projekt, ledarskap och förändring!

I över 50 år har vi utvecklat individer och företag genom utbildning och rådgivning.

Välkommen du också!

www.wenell.se Tel: 08-545 700 80 info@wenell.se

Wenell

Voices of Support

At Chalmers our vision, Chalmers for a sustainable future, permeates all our activities. This requires us to be both locally and globally connected and engaged. Consequently, international networking, collaboration and exchange are key priorities in education, research and innovation.

Chalmers alumni will have their future careers in diverse and internationally connected companies and organiza-

tions. Hence, developing and supporting activities providing Chalmers' students with international outlook, as an integrated part of their education, is essential.

CESIP is a student led organization providing Chalmers' students with the possibility to gain international and industrial experience through an internship period at a company in the US or Canada.

The organization committee is depend-

ent on support from companies and other organizations to make the program a continued success. The program is an important factor in providing opportunities for international experience to Chalmers' students and I fully support the Chalmers Engineering Student Internship Program.

STEFAN BENGTTSSON
PRESIDENT AND CEO, CHALMERS
UNIVERSITY OF TECHNOLOGY

About Chalmers

Chalmers University of Technology, founded in 1829, is a Swedish university located in Gothenburg that focuses on research and education in technology, natural sciences, architecture, mathematics, maritime and other management areas.

Chalmers is Sweden's most reputable university, and was in 2018 named one of the top ten global leaders in engineering education by an MIT report. Across its two campuses, Chalmers has approximately 10 000 full-time students and 3 100 staff.



CHALMERS
UNIVERSITY OF TECHNOLOGY



Photo: Anna-Lena Lundqvist/Chalmers University of Technology



Photo: Sandvik Group

Sandvik Group

Sandvik is a high-tech engineering group with world-leading positions in mining and rock excavation, metal-cutting and materials technology. We combine a vast experience in design and manufacturing with advanced software capabilities, enabling us to develop productivity-enhancing digital manufacturing solutions and be at the forefront in areas such as mining automation and electrification.

With around 37 000 employees and operations in about 160 countries, we are a truly global company. We thrive on solving challenges for our customers, and are deeply committed to our purpose of making the shift and advancing the world through engineering. In 2020 we had revenues of 86 billion SEK and about 3.4 billion was invested in Research & Development. We hold approximately 6 000 active patents.

Sandvik's objectives are clear. We are driven by our passion to continuously innovate smarter solutions and enable important shifts. We want to spearhead the sustainability shift and be a leader in digital solutions in our industries.

To achieve our ambitions, our employees are at the very core. A highly skilled staff with international experience is crucial for us to be an industry leader and build the strongest global Sandvik culture that can be. Therefore we fully support the Chalmers Engineering Student Internship Program, as it provides an opportunity to gain some of the international experience that is so important to have.

**STEFAN WIDING
PRESIDENT AND CEO,
SANDVIK GROUP**



Words from the ambassador in Canada

Urban Ahlin, ambassador and former speaker of the Riksdag!



As Sweden's ambassador to Canada my role is to promote the relations between Sweden and Canada through establishing contacts for business, trade, culture and political affairs. As an intern in North America you will be an active representative both for Chalmers University and for Sweden, contributing to building the future bilateral partnership between our countries.

Canada is an important and like-minded ally to Sweden, not only in our common pursuit of free, inclusive and fair trade. Canada is also an important partner in promoting democracy and showcasing the success of liberal market economies, not only to our own citizens, but also to the rest of the world. Speaking of citizens, you may not know that in 1985 Canada made Swedish citizen, humanitarian and diplomat Raoul Wallenberg its very first honorary citizen.

Canada and Sweden have much in common: similar cultures and values, including the love of hockey; resource-based economies; stable and supportive political environments with a feminist foreign policy; world-leading academia and extremely advanced innovation ecosystems that together

business, trade and political relations. Under the CETA agreement, more than 90% of trade tariffs were removed, labour mobility and mutual recognition of professional qualifications and diplomas were facilitated. In short, it has never been a better time for exchanges between our countries, including for students interested in innovation, green technology and science, all key areas of the Canadian economy.

represent opportunities to work even closer together and advance solutions in a number of industry segments that could scale globally. There are approximately 130 Swedish subsidiaries in Canada employing thousands of Canadians, and even more Swedish brands represented through distributors.

The free trade agreement between Canada and EU (CETA) which entered into force four years ago provides an opportunity to further increase

As interns in Canada you will gain invaluable work experience in your different fields. You will also have the opportunity to learn from another culture as well as to establish professional networks for your future careers. As highly qualified students you will undoubtedly make a significant contribution to the companies where you will work. I want to encourage you to make the most of this experience and to keep in touch with employers, friends and colleagues in North America after your return to Sweden. I wish you all good luck and a fantastic time here in Canada! Do not hesitate to contact us at the Embassy during your stay in this great country.

URBAN AHLIN
AMBASSADOR OF SWEDEN
TO CANADA

In seeking to ensure we have the right people in the right places at the right time, we at ABB are working hard to broaden diversity knowing that this further aid ABB's success. An example of multicultural collaboration can be found at our headquarters in Zurich where we have people from more than 50 countries. An understanding of international environments and

strong international experience are examples of skills that important in this endeavor, and therefore we proudly support the Chalmers Engineering Student Internship Program.

ABB is a leading global technology company that energizes the transformation of society and industry to achieve a more productive, sustainable future. By connecting software to its electrification, robotics, automation and motion portfolio, ABB pushes the boundaries of

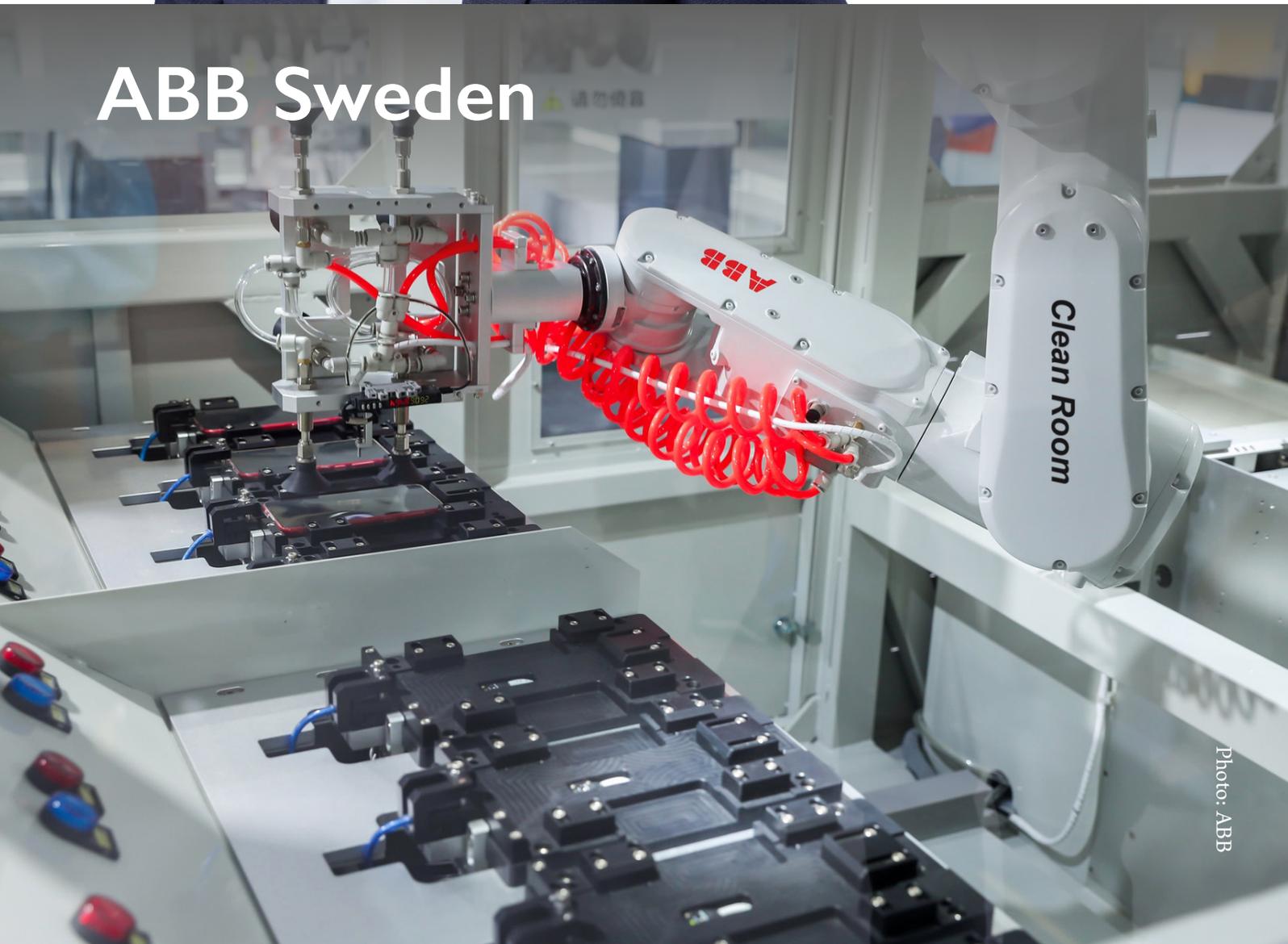
technology to drive performance to new levels. With a history of excellence stretching back more than 130 years, ABB's success is driven by about 105 000 talented employees in over 100 countries.

We are continuously looking for exceptional students to help us solve the challenges we face today to enable a healthier and more prosperous tomorrow. Working at ABB gives you the opportunity to contribute to a healthier and more prosperous world, by joining a passionate team, focused on pushing the boundaries of technology to drive performance, shape new business models and find new ways of working that benefit our customers, partners and society.

DENNIS HELFRIDSSON
COUNTRY MANAGING DIRECTOR,
ABB SWEDEN



ABB Sweden





Drömmer du om en ny karriär?

Vi söker ständigt efter nya talanger som brinner för en hållbar framtid inom energibranschen.

Är du vår nya medarbetare som söker efter nya utmaningar?

jamtkraft.se/jobb



Support CESIP

Do you want to express your support for CESIP and its mission? Do you want your company's advertisement in this magazine, or your company name on our website and social media channels?

We can assist you in reaching out to Chalmers University of Technology and its thousands of students, all of whom are talented future engineers. Contact us at contact@cesip.se to find out what we can offer you and your company.



Visit our website



**LEADING COMPANY
WITHIN CONTROL
SYSTEMS AND DATA
SCIENCE.**

COMBINE



We pioneer motion

We are ready
for electric mobility.

Precision in perfection. That's what we've always been famous for. For over 75 years, to be exact, innovation and pioneering spirit have always been in our DNA. We want to create the perfect electric motor – to build a sustainable future for generations to come.

www.schaeffler.se

SCHAEFFLER



Institutet för rymdfysik
Swedish Institute of Space Physics



Institutet för rymdfysik, IRF, bedriver forskning och utbildning i rymdfysik, rymdteknik och atmosfärfysik.

IRF är en statlig myndighet med verksamhet vid huvudkontoret i Kiruna samt i Umeå, Uppsala och Lund.

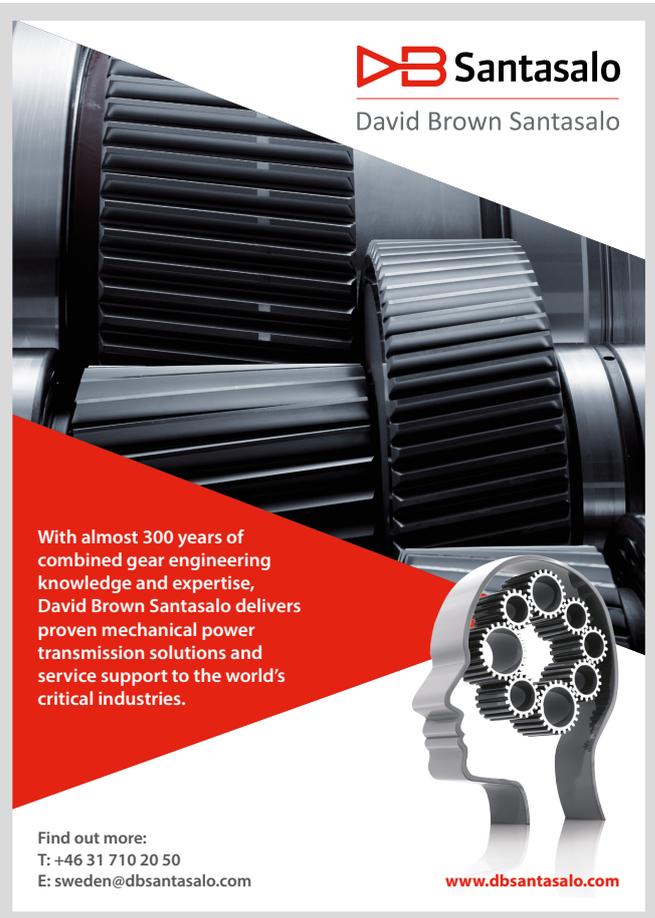
IRF har för närvarande instrument ombord på satelliter i bana runt jorden och Mars, och har skickat instrument till flera andra planeter.

IRF använder även olika radarsystem och optiska instrument för bl.a. norrskensforskning och atmosfärforskning.

www.irf.se

Santasalo

David Brown Santasalo



With almost 300 years of combined gear engineering knowledge and expertise, David Brown Santasalo delivers proven mechanical power transmission solutions and service support to the world's critical industries.

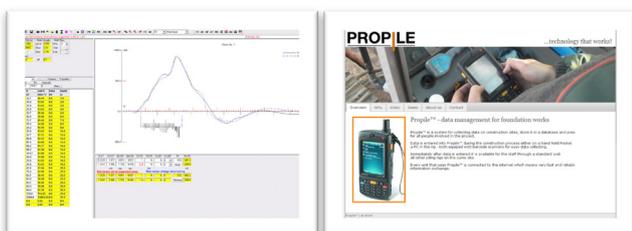
Find out more:
T: +46 31 710 20 50
E: sweden@dbsantasalo.com

www.dbsantasalo.com



Konsulter inom grundläggningbranschen

- Stötvågmätningar
- Integritetstester
- CAPWAP- & WEAP-analyser
- Propile® - Digitala pålprotokoll



www.palanalys.se

Trilogik

Ett konsultföretag inom
driftsäkerhetsanalys,
simulering och
systemutveckling

Trilogik Konsult AB
Östermalmsgatan 87A
114 59 STOCKHOLM

www.trilogik.se

VI SÖKER SVERIGES HUNGRIGASTE STUDENT.

Har du ett driv utöver det vanliga och vill:

- kickstarta din karriär efter examen?
- bli mentorerad av Sveriges främsta PLM-experten?
- ha roligt på jobbet samtidigt som du får chans att jobba i de mest avancerade IT/PLM-projekten?

Är du den vi söker?
HÖR AV DIG TILL OSS!

careers@virtualengineering.se



Vi är ett av Sveriges främsta PLM-konstulbolag med många av de svenska storbolagen som kunder.



BRUNO Mats Thesellus

KÄLLEMO
kallemo.se

From our current Interns

Though the ongoing pandemic has caused multiple internships to be postponed, some members have already started working from home.

You will find their thoughts and experi-

ences, so far, in this section.

The travel stories of members who are yet to depart will be included in next years Internship Report, so keep your eyes open!





The Precarious Road to the Golden State

It was late May, at a restaurant in Halmstad, when I found out that I would be going to San Diego for almost a year for my internship with IOWN Renewable Energy. I was super excited, since San Diego was among my most desired destinations in the US, before even applying to CESIP.

The company's aim was that I would start in early September, but due to Covid, it was a bit delayed. As I'm writing this I have just arrived in San Diego and will start working on the 4th of October. Therefore, I will write about the journey here, which was special, to say the least.

The road here was far from uncomplicated. Because of Covid, the American embassy in Stockholm was more or less closed for visa interviews. So I did what a lot of other people did at that time: went to Romania for my visa interview. Me and my friend Parsa - who is also a member of CESIP and who will also work at the same company, but unfortunately hasn't got his visa yet - flew down to Bucharest and went for

an interview. For me, the process went smoothly, and I could leave after just a few days. Bucharest was nice, with lots of beautiful buildings and nice restaurants.

After Romania, I flew back to Sweden for about a week to pack all my stuff. But because of the US travel ban on Schengen residents, it wasn't possible to fly straight to the US. So I went for a two-week vacation to Cancun, Mexico. That was awesome! My cousin Sanna was so kind as to join me and we went to all kinds of different places. Swimming with enormous whale sharks, snorkeling close to stingrays and turtles, zip-lining through the jungle, and going to the Chichén Itzá, a pyramid that is one of the new wonders of the world, were just some of the things we did.

Albin Widengård

Age: 22

Area of study
Engineering Physics

IOWN Renewable Inc.

Founded: 2014

Office location
San Diego, CA

Website
www.iownrenewable.com

Getting from Cancun to San Diego was no problem at all. I'm so grateful that things have worked out and that I'm finally here. I'm sure the internship itself will be very rewarding and I already feel like I will have a great time in this city. I look forward to telling you more about what I am about to experience in my full travel story in next year's Internship Report.

Until then, take care, and apply to CESIP! You won't regret it.

ALBIN WIDENGÅRD





Very Long Broadcasted Internship

As for many of us, it has been quite an unusual year with unpredictable developments of the pandemic and international travel restrictions. Consequently, it was decided early on that our internships would be conducted remotely. Of course, we were disappointed that we would not get to travel to the US, but nonetheless we were very excited to be working for NVI Inc. over the summer. Three months of space, programming and meetings with experienced engineers sounded like a dream come true! NVI Inc. is a contractor to NASA, based at the Goddard Space Flight Center outside of Washington, DC, specializing in space geodesy using a technique called very-long-baseline interferometry (VLBI). In short, space

NVI Inc.

Founded: 1989

Office location
Greenbelt, MD

Website
www.nviinc.com

geodesy is a way of measuring the earth's shape, rotation, and orientation in space by means of sources external to Earth.

Despite the remote situation, we were early on introduced to the team with an online dinner. For us, this meant a slight shift in our ordinary schedules; with a time difference of six hours, our dinner started at 11 PM! We got an informal description about the different work people were doing, as well as a chance to introduce ourselves, and it was a very cool experience to meet everybody.

We both worked on separate projects throughout the internship. Working individually was quite challenging, but also exciting as this meant that you would be solely responsible for your work. Samuel had two different projects, the first of which was very software oriented. He was tasked with updating and continuing development of a tool needed to read a specific file format used when gathering VLBI data. Most of his time was, however, spent on the second project, which focused less on software engineering and more on research. When estimating earth

rotation parameters using VLBI, multiple sources in the sky are observed, all of which are subject to disturbances caused by a turbulent atmosphere. Observations can be scheduled in such

Adrian Lundell

Age: 23

Area of study
Engineering Mathematics

Samuel Wagner

Age: 24

Area of study
Engineering Mathematics

a way as to reduce these disturbances, and the task of the project was to find what scheduling characteristics seemed to achieve this. It was interesting to see how to approach these projects outside of all the textbooks and course assignments, and that the main focus was to get something that works in practice.

Adrian worked on building three data visualization tools in Python to simplify the process of comparing different geodesy data over the same time period. One tool handles earth orientation parameters similarly to the ones Samuel were working on, while the other two handles transforms between different reference systems. It might sound surprising to find out that different data series exist for the same parameters, but as the parameters are estimated through various techniques from a large number of measurements constantly shifting because of many different factors, the correct estimate is not so obvious. One must also understand the level of detail involved to place a coordinate on earth on a millimeter scale. For example, one thing that stood out to me was the need to take into account the thermal expansion of antenna towers during the summer.

It was a fun opportunity to get familiar with all these concepts and to create something which would be used in future research. Another important takeaway was how to create a complete Python library, which seems like a very useful skill to have. The interested reader may look up adrians-geotools on GitHub to download and play around with the tools.

After three educative months of programming at NVI Inc., we are both leaving for Germany to take on further challenges at the Technical University of Munich. This summer has been a great experience for both of us and we cannot wait until the world opens up completely again so that we can come and visit NVI and Goddard Space Flight Center in real life!

**ADRIAN LUNDELL &
SAMUEL WAGNER**



Validitet i rekryteringsprocessen

David Näsström, affärsutvecklare och delagare på Refapp, höll för ett par veckor sedan en workshop tillsammans med CESIP 2022 på temat "Hur skriver ni ett CV och personligt brev". Här delar David sina bästa tips för att få till sin ansökan, samt belyser varför det finns utrymme att ifrågasätta urvalsmetoden!

Forskning visar att arbetsgivare eller rekryterare beslutar sig efter att ha tittat på ett CV i **6 sekunder**, så se till att fånga uppmärksamheten genom att ha ett visuellt strukturerat CV. Börja gärna med en kort sammanfattning och anpassa efter den tjänst du söker. Ytterligare ett tips är att under övrigt skriva in studentengagemang eller andra prestationer som framhäver just Dig.

När du skriver ett personligt brev kan dessa fem punkter hjälpa dig att komma igång och få till en bra struktur:

1. Läs igenom annonsen och anpassa din text
2. Använd den retoriska dispositionen (inledning, bakgrund, tes, argumentation och avslutning)
3. Kort & koncist
4. Korrekturläs
5. Ta hjälp!

“Workshopen tog en oväntad vändning när David presenterade vad forskningen visar om personligt brev och CV som urvalsmetod. “

CV och personligt brev är idag något som efterfrågas vid ansökningar, men David har djupgrävt kring validiteten i metoden och visar att den har lågt stöd i forskningen som valid urvalsmetod. Workshopen tog en oväntad vändning

när David presenterade vad forskningen visar. Antal års arbetslivserfarenhet har exempelvis 0.16 i prediktiv validitet, vilket är vad CV:t visar, förutom eventuellt ålder som har 0.00 i validitet. Vidare är syftet med det personliga brevet oftast att användas som komplement till CV:t, där rekryteraren får en mer personlig bild av kandidaten. Problematiken är att brevet väcker fördomar och forskning visar att vi människor gärna vill omge oss av människor som liknar oss själva. Det är också rimligt att rekryteraren reflekterar över om de faktiskt söker en person som är bra på att skriva och framhäva sig själv? Varför ska exempelvis en teknisk fysiker ha kreativitet och förmåga att sälja in sig själv och kunna författa ett brev som fångar läsarens uppmärksamhet? Dessutom visar studier i ämnet att kandidaten endast har 6 sekunder på sig att väcka uppmärksamhet hos läsaren, vilket gör att det blir mer en tävling i att göra snygga dokument och klatschiga meningar. Är det därför kanske rimligt att ifrågasätta varför det används som urvalsmetod?

“Varför ska exempelvis en teknisk fysiker ha kreativitet och förmåga att sälja in sig själv? “

David är medgrundare och affärsutvecklare i **Refapp**, som har tagit fram ett verktyg för digital referenstagning och automatiserat processen. Idag har

bolaget fler än 400 kunder, som årligen gör över en kvarts miljon referenstagningar. Frågeformulären i Refapp går att koppla till kompetensramverk och bolaget uppmanar företagen till att ta in fler referenser! Genom att ta in fler referenser **ökar validiteten** och möjligheten för att rätt person hamnar på rätt plats. De starkaste argumenten för att ta steget att gå över till digital referenstagning är att det strukturerar, effektiviserar och ökar validiteten. Finns det då en alternativ urvalsmetod undrar vi? David lyfter 4 alternativa urvalsmetoder han önskar att alla bolag som söker Young Professionals i framtiden i stället använder sig utav:

1. Urvalsfrågor vid ansökan kring skallkrav
2. GMA-test och personlighetstest (vid rekrytering av Young professionals är kandidatens potential avgörande)
3. Peer Rating (referenstagning med fokus på personliga egenskaper som efterfrågas för rollen). **Självklart via Refapp** tillsammans med det rekryterande bolagets kompetensramverk så vi kan få många respondenter som kan bekräfta/dementera testresultatet på ett strukturerat och objektiva sätt.
4. Som sista steg, en kompetensbaserad intervju baserad på resultatet från ovan urvalsmetoder.

HEDVIG BERGSTRÖM, REFAPP



Vill du lära dig mer? Gå till www.refapp.se



Blast from the Past

No, not the 1999 Rom-Com featuring
Brendan Fraser.

CETAC and AMCIP, CESIP's prede-
cessors, have been active since 1966
and 1963 respectively. Together they
have organised over 1000 internships in
the US and Canada.

For this years edition of the annual
Internship Report, we have picked out
some of our favorite travel stories from
previous members.

Furthermore, we also interviewed these
member to hear what they think about
their year abroad later in life.





Driving the American Dream

Backed by a great deal of eagerness and enthusiasm I left Landvetter airport and Sweden behind me as the airplane slowly climbed the sky. Not until this very moment had I really grasped that what lay ahead of me was a half a year long journey that would forever change my life - I was on my way to the sunny west coast of California. The Mecca for tech-savvy engineers and worshippers of the sun!

After an intermediate landing in Amsterdam, the airplane finally touched down on American soil. This was it. After months of preparation and paper shifting, back and forth between me, my employer, the U.S. embassy, and the American-Scandinavian Foundation in New York, I had finally arrived at the American continent, my place of residency for the remainder of the year.

To kick-off the adventure in the best possible way, me and my fellow CETAC friends had planned a short stop in New York. A stop with an agenda packed to its limits.

Touching down at the JFK airport and traveling the 15 miles into the heart of the city I was amazed by its majestic skyline. But as I came to learn, the city of New York, the Big Apple, is characterized not only by its enormous skyscrapers but also by the diversity of its people. Every imaginable culture and religion is represented here and each

has had its own influence in forming all aspects of the city.

And as we made our way through the dense traffic from the airport, we got a glimpse of how a fraction of those intermingled cultures shined through on the streets and lifestyle of the N.Y. inhabitants. Of course observed from within one of the notoriously well-known yellow cabs!

Apart from exploring New York on our own, we met with the American-Scandinavian Foundation (ASF), the organization that assisted CETAC with getting all visas in order. We also had the chance to spend a few hours with the good folks in our sister organization AMCIP. Though our stay in New York was just amazingly fun, the time had come to put on our traveler's shoes again and hit the road to our next stop: California!

Arriving at the San Francisco International Airport, the first thing that struck me was the laid-back attitude people greeted us with. In contrast to the busy,

things-have-to-happen-right-now style we were initially faced with on the JFK airport in New York, this was definitely more appealing.

Having absorbed portions of the new lifestyle and regained our senses, me and my roommate to-be, Christoffer, were faced with a minor problem of logistics. But as we stepped outside the doors to the airport, we found that the solution to our problem was conveniently parked right outside, in the form of a blue SuperShuttle van. Said and done, we got into the blue beast and took off to the city of Palo

Mercedes-Benz

Founded: 1926

Employees: 175 000 worldwide

Office location

San Fransisco, CA

Website

www.mercedes-benz.com

Alto, beautifully located in the heart of Silicon Valley.

For the first week of my time in California, I stayed at the Super 8 Motel, arranged by the kind people at the HR department of Mercedes-Benz. As I later found out, that particular Super 8 Motel was close to legendary, as almost every intern before me had stayed there for one or several days before finding their own place of residence.

After having acquainted me with the surroundings of Palo Alto during the weekend, the big day had arrived – my first day at work! But ouch, I had forgotten to decide on a time with my boss! So with no prior time arrangement, I dressed up in my slack pants, shiny shoes, shirt and tie and headed off to work. A few minutes to eight, I arrived at the entrance and reception of the office. The place was more or less empty. Had I come to the right place? I was later told that people usually get in around 8:30 to 9 o'clock, so until then I sat down and waited. Shortly after, my boss Anders arrived, and without any further ado, he gave me the grand tour of the office and introduced me to my fellow-workers in the team I was assigned to; the CICE team – Connected Infotainment and Consumer Electronics.

The CICE team is centered around research and advanced engineering activities for connected audio/video, consumer electronics device integration, and connected navigation. Products such as the iPod integration kit and the latest Mercedes-Benz and Google collaborated project Search & Send, has originated from this team.

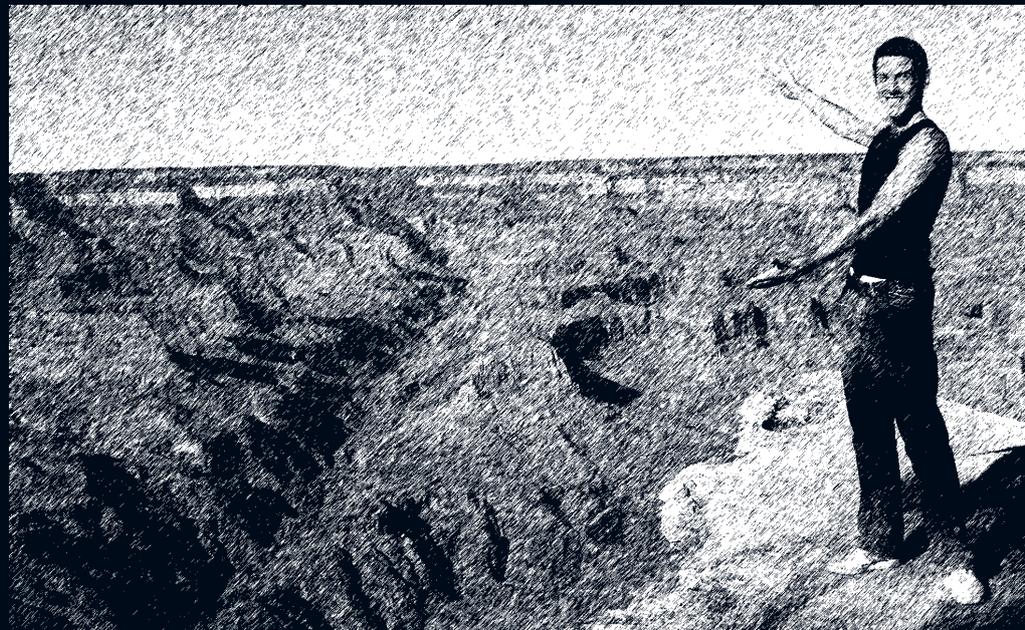
From what I had read and heard from previous CETAC members, working as an intern, you are most commonly appointed a certain task with which you work, for the whole period of your internship. In my case, this has been the direct opposite. I have worked on projects ranging from the creation of material to support business cases, create presentations, do concepting and prototyping, as well as field testing.

Doing work within all these different areas, I have been given a greater picture of the whole process of the phases involved in taking an idea from the drawing board to a finished product.

“But the internship has not only been about work”

And with the talented set of individuals in the team, my time spent on different projects have been very rewarding, and there has always been someone around to ask for help when need be.

Most of my work so far has been in the context of streaming video. The area of streaming video revolves around a set of competing key players on the market, utilizing different technologies



to reach the same goal of providing solutions for viewing streamed video content, such as broadcasts from TV stations, within the car. This line of work has been quite varying and has involved everything from programming to field testing. I have also had the opportunity to do some concepting to flush out some plausible directions for implementing a flexible software architecture for a vehicle hardware module.

But the internship has not only been about work. The state of California has a great deal of adventures to embark upon. For instance, Anders early on introduced me to the Young Scandinavians Club in the Bay Area. It is a club

for everyone of Scandinavian descent, anyone who has lived in Scandinavia or pretty much anyone who feels Scandinavian-ish and has a strong urge to join. My first encounter with the club was up at the club's cabin at Clear Lake, during the midsummer party. It is all about having fun and meeting great new people. And of course, to get a great tan while doing so!

I have also been fortunate enough to have had both a good friend and my lovely family come visit me. As I had not really explored the state of California up until then, this presented a great opportunity to do so.

Without blinking, we rented a mid-size car and got on the road. First stop was

the beautiful Yosemite national park to the east of San Francisco, not far from the border of Nevada. Apart from the great nature sightings in Yosemite, we also experienced a quickly changing weather condition, starting with pouring rain, followed by hailstorm and a temperature drop, resulting in snowstorm.

Still amazed by the weather phenomenon in the park, our trip went on to the entertainment capital of the world – Las Vegas! The city has become one of the world's most well-known centers for gambling, shopping, and entertainment-seeking people in general.

Walking down the Las Vegas Strip, a four miles long section of the Las Vegas Boulevard South, I was completely dazzled by how immense everything was; the enormous and lavish hotels, all the flashing lights and the number of fortune-seekers putting their last belongings on a single game on the roulette. There surely is nothing small in Vegas. I bet "Bigger is better" has got to have been every architect's motto

Andreas Hallingström

Age: 24 (during internship)

Area of study

Computer Science & Engineering.

Best US memory:

The sunset over the mighty Grand Canyon.

while drawing the buildings now located on The Strip.

Leaving Vegas, also known as Sin City, I had lost a shocking \$2.5 on the slot machines and flooded my camera with photos of everything that had come in my way. From Vegas, we traveled further south-east, over Hoover Dam, to reach our ultimate destination of Grand Canyon. The canyon is an extensive gorge carved by the Colorado River million of years ago. The Colorado River has also been made famous by being the supplier of most of the water for Las Vegas.

When leaving the canyon, we were struck by the possibility of also being able to visit Los Angeles before heading back home. Although quite the detour, we all agreed it would pay off. And it sure did! We got to see the famous Hollywood sign, stroll down the waterside of Santa Monica Beach and visit the luxurious neighborhoods of Beverly Hills.

My stay in the U.S. and the internship at MercedesBenz has so far been a fantastic experience. I have had the chance to meet and work with very kind and greatly talented people from who I have learnt a lot. I have also had the chance to meet a lot of new friends outside of work who have made my stay here most pleasant. First and foremost I owe a lot of gratitude to my manager Anders who has been very supportive and great fun to work with, all my other co-workers and fellow interns at DaimlerChrysler (none mentioned, none forgotten), all the great folks in the Young Scandinavians Club, and last but not least, all my good friends in CETAC. This time would not have been the same without you all!

ANDREAS HALLINGSTRÖM

Originally published as "Driving the American dream" in "CETAC Trainee Report 2007".

See what Hallingström thinks about his year with CETAC and Mercedes-Benz today, 14 years later, in our interview with him on page 38.

ADDTECH

Ledande tekniklösningar för en hållbar framtid

Svensk börsnoterad tekniklösningsskoncern

Addtech är en svensk börsnoterad tekniklösningsskoncern. Verksamheten består av 140 självständiga koncernbolag som säljer högteknologiska produkter och lösningar till kunder inom framförallt tillverkande industri och infrastruktur – med fokus på långsiktig hållbar tillväxt.

addtech.com

Vikten av det viktigaste

Våra auktoriserade återförsäljare inom ABUS Sverige Gruppen erbjuder helhetslösningar med lyftutrustning, leasing, montage, service och utbildning av din personal.

Låt oss ta hand om det viktigaste

– att personal och produktion är i trygga händer
– så att du kan lägga energi på annat.



Läs mer på abus-kransystem.se

AUKTORISERAD ÅTERFÖRSÄLJARE
JJ GRUPPEN & CARLHAG

ABUS
KRANSYSTEM



Vi sprider ljus och värme

ABB Kabeldon kabelskåp

abb.se/kabeldon

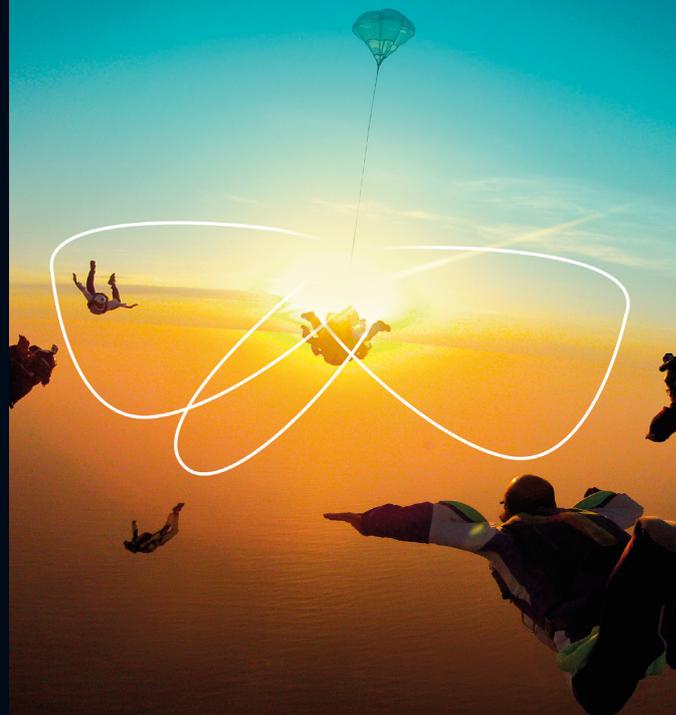
Sätter du driftsäkerheten i centrum?

PUR- och smältlimsapplicering
från italienska PREO.



Djupdalsvägen 18, 192 51 Sollentuna | Tel 08-83 08 80, Fax 08-82 33 44
info@bohlins-maskiner.se | www.bohlins-maskiner.se

POWER MOTION CONTROL



Build your career with us

PMC Hydraulics is the leading supplier of hydraulic systems and components in the Nordic region.

We offer complete solutions and a unique blend of expertise for our customers in the mobile, marine, industry and energy sectors.

www.pmchydraulics.com



Ithaca is Gorges

Ithaca is Gorges. Or that's what all the T-shirts said at least. The town called Ithaca is famous for its gorges, waterfall and green way of living, however it is also known for the research at Cornell University. That's where I did my internship the summer of 2009.

I arrived to Ithaca in the middle of the night on a Monday. The town was asleep and there were no one to ask for directions. I found myself wondering around the empty streets until a guy came up to me and said that the bus driver thought I was lost and might need directions. That's the good thing about Ithaca. Everyone is always willing to help you.

I lived in an apartment with three girls from Cornell University. This was a good way for me to get in and experience the real way of living over here. My roommates took me to a lot of places and through them I met some great people who also wanted to show me parts of Ithaca that I would have difficulty to go to on my own. I got to swim by the waterfalls of Ithaca, stroll around the Farmers Market where everything was grown by the people selling it and celebrate Fourth of July with a traditional BBQ and smores.

Work started almost right after I arrived, I found myself at Professor

Shealy's office not really sure what to expect from my internship. The plan was, well I didn't know what the original plan was, though because of trouble with the photon counter that plan was abandoned and I had to be reassigned to another project.

Professor Shealy and his grad students were doing research on "Capacitance - Voltage (CV) characterization of AlGa_N/Ga_N heterostructures". By measuring capacitance and conductance for a voltage range it is possible to determine the sheet electron density, the effective AlGa_N barrier thickness and also the pinch off voltage for a sample.

The measurements are done with the help of a program called IC-Cap. IC-cap has a lot of advantages and possibilities, however a regular measurement is done by giving a voltage range for the probe to sweep over. These measurements take time and every so often they have to be done more than once on the same sample to alter some parameters depending on the sample.

This is where I come in. My job was to create Macros and transforms in IC-Cap to automatize and make the measurements "smarter". The idea was to still let the initiation of the measurement be simple by just entering the voltage range and click on the measurement button. IC-Cap would then make numerous single point measurements within that range. The voltage-step between every measurement would depend on the slope of the curve and can therefore do more precise meas-

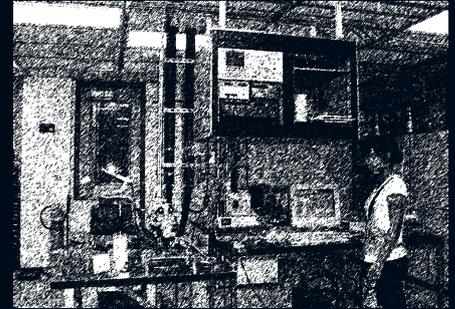
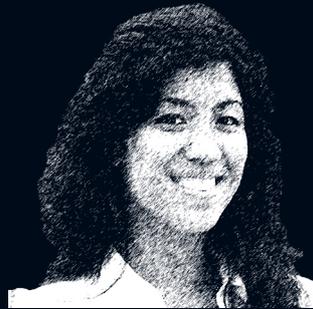
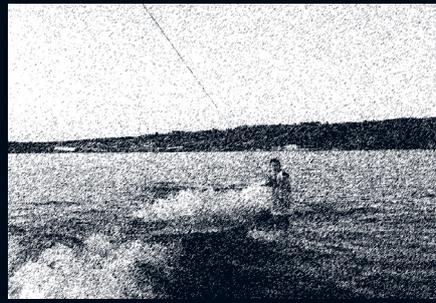
Cornell University

Founded: 1865
Employees: 2 874
Students: 24 027

Location
Ithaca, NY

Website
www.cornell.edu

Yes, it was a very big sign



measurements only when needed which would result to a lower measurement time altogether. And when it comes to technology and research today, time makes a big difference.

For someone like me who had never heard of IC-Cap before, this was a great chance to learn a new program which is used a lot in this field. I really felt that I got something out of my internship and that the experience was priceless.

The summer in Ithaca was more than just work and Professor Shealy is the last person to forget that. One Friday I was sitting at the office on what was believed to be one of the hottest days that summer. Professor Shealy stopped by to check on my progress and also invited me and my roommate out on the lake that day. We got to his boat when the sun was at its highest and went out to the middle of the lake. We immediately jumped into the water and lied in our floaties enjoying the hot sun and the cool water. Not long after that more boats showed up with people from many different parts of the community. They tied their boats to ours and everyone was going from boat to boat enjoying their day as we were. Professor Shealy also invited some friends of his that were from two different bands, together they played live music for us. One of the other boat owners had a board and asked if anyone wanted to try and wake surf on the

waves of the boat. Wake surfing consist of a plain board without any straps for your feet, you then have a line to hang on to and when you have your balance and speed, you let go and surf on the waves. A bunch of us went just to watch and one by one people tried to master the board. They asked if I wanted to try and at first I was a bit unsecure but

boat to nearby harbor that had a nice restaurant with good food and great atmosphere, or maybe the atmosphere was because of us. After dinner we went back on the boat and were ready to go home. On the way back the sky was lit with a thousand stars and along the shore someone was shooting fireworks. It was the perfect end of a perfect day.

Sofia Rahiminejad
Age: 22 (during internship)
Area of study
Engineering Physics.
Best US memory:
Going out on the lake with my boss and my friend.

This trip was not only about going to the USA and work, this trip has made me more open and unafraid to try new things on my own. I learnt a lot about myself when it comes to the way I work and also how I handle a new and unfamiliar situation. I met a lot of students from different fields and made strong connections with many of them.

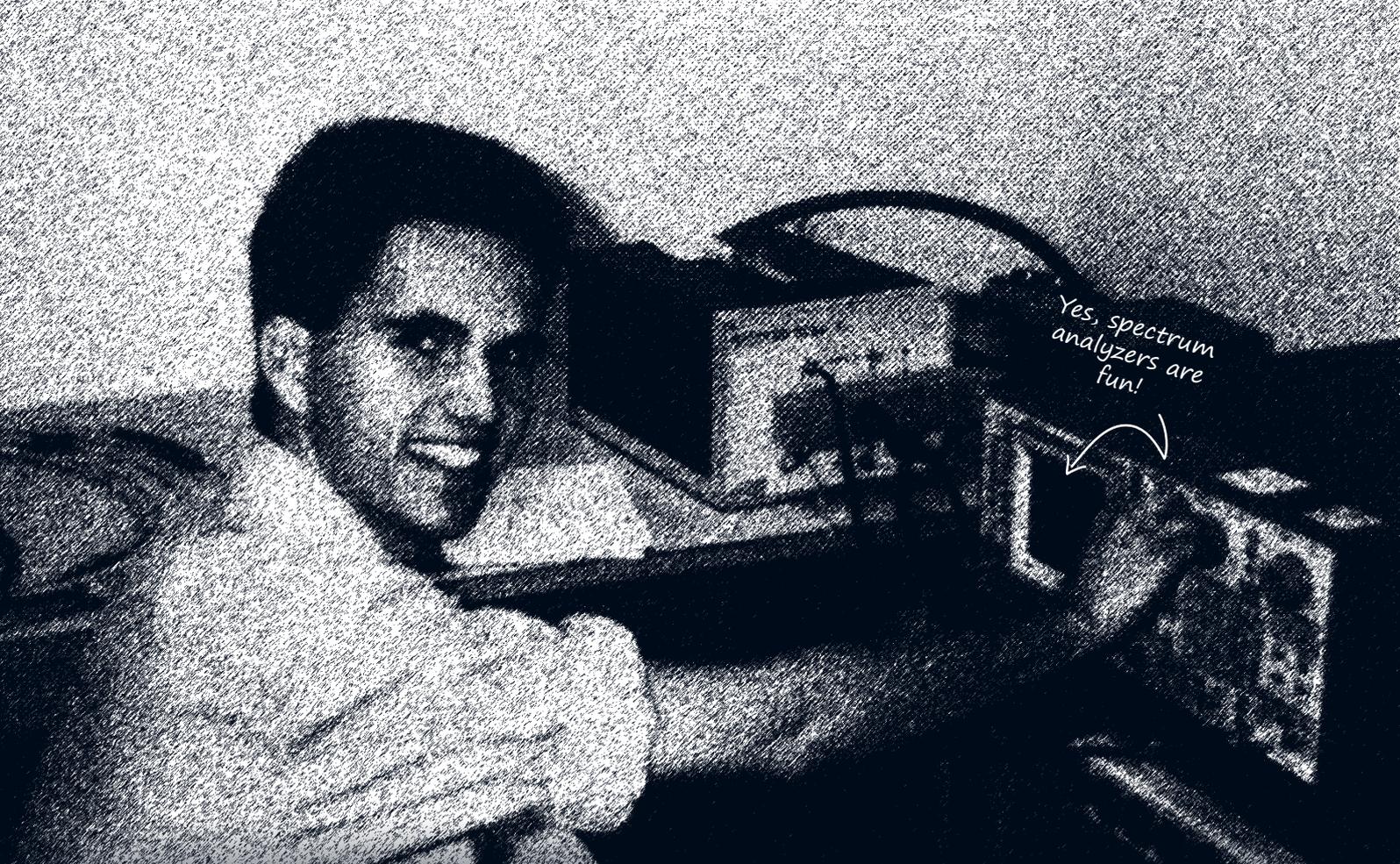
I want to thank professor Shealy for giving me this opportunity and his grad students for all the help they gave me. I would also like to thank Jamie, who works for Prof Shealy, for always giving a helping hand and a smile.

SOFIA RAHIMINEJAD

Originally published as "Itacha is Gorges" in "CETAC Trainee Report 2009".

See what Rahiminejad thinks about her year with CETAC and Cornell today, 12 years later, in our interview with her on page 38.

then I realized that it will probably be a long time before I get the chance to try it again and I didn't want to waste that opportunity so jumped into the water with my yellow life vest ready to give it a go. It was not as easy as it looked but after a few tries I managed to get up on the board and stay on it for a few seconds. I will probably not become a professional in this area but I am glad that I tried. The sun started to set and we all realized that we had not eaten for a long while. Professor Shealy took us on his



Yes, spectrum analyzers are fun!

Inside Austin City Limits

In the middle of the Lone Star State, Texas, Austin is beautifully situated among hills and along a river that has been turned into a lake by a big dam. The city is the capital of Texas, and the central building in the downtown area is the Capitolium, a replica of the senates and representatives building in Washington D.C. It is actually the largest Capitol building in the U.S.

The city is also home to a large, well known university, the University of Texas in Austin, with 55 000 students. During semester, the students make up a large portion of the city's population (with suburbs about 500 000), and their presence can clearly be seen in the city.

Austin has several high-tech industries and businesses, among them Motorola, who makes microprocessor chips, IBM, Texas Instruments and some offsprings from the university like Dell Computers, a competitive-price mail-order company started by a student. One of these companies is EMCO, where I had

the great opportunity to work for eight weeks.

“Bill will never forget the Swedish way of doing the dishes!”

EMCO, The Electro-Mechanics Company, has electromagnetic interference, EMI, as its business area. The purpose of the products is to give the customer the possibility to make easy and accurate tests to detect or measure electromagnetic fields, both radiated and conducted. Accurate test results are important in dealing with EMI problems, which are constantly getting more and more attention. One example is the debate over radiation from computer monitor screens.

EMCO is a world leader in this field of business, and has in the last years released a new product called the GTEM, Gigahertz Transverse Electro-Magnetic cell. With it, it is possible to do the same tests that today demands an undisturbed open-area test site, often placed way out in the desert or

countryside. The advantages of doing these tests indoors, at the respective company, are clear.

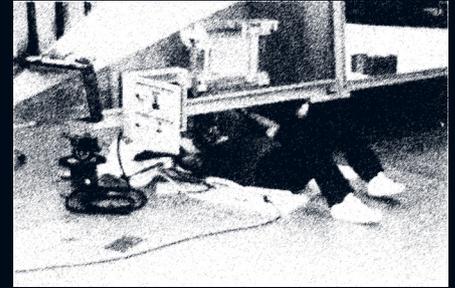
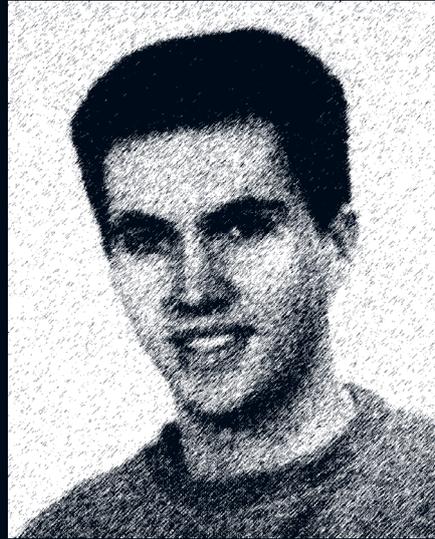
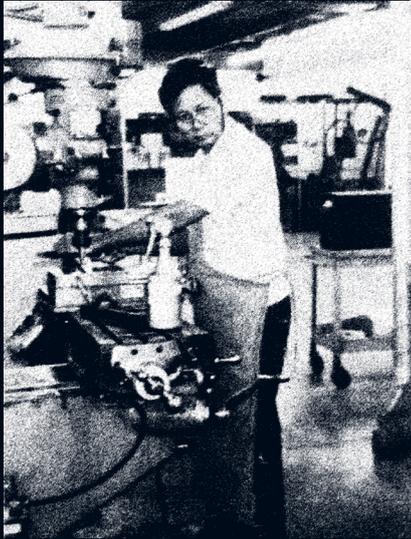
I spent most of my time on a project whose object was to confirm that the GTEM cell and open-area testing give equal results. With comparison data, EMCO can get the GTEM approved as a test method by the ANSI standards committee in the U.S. And then, hopefully, even more customers will buy the GTEM!

For this project, I tuned dipole antennas to different frequencies by adjusting the length of the elements, and then excited the antenna with a predetermined signal level. At some occasions,

EMCO

Founded: 1950's
Employees: 80

Location
Austin, TX



I used a tracking generator to get a continuous sweep over a certain frequency range. With an EMI-meter or a spectrum analyser, I read the output from the GTEM cell, or the receiving antenna in the open-area case. Inside the cell, I rotated the antenna between three orthogonal coordinate positions, the XYZ-axis. A computer program calculated the total antenna output from these three coordinate readings. On the open-area site, no rotation of the transmitting antenna took place. Instead, the receiving antenna was mounted on a tower and its height was continuously changed from 1 to 4 meters, looking for the maximum level. After the tests were finished, I used my computer to present the data in spreadsheets and charts.

Beside this project, I measured antenna factors, which can be thought of as antenna "loss" ($AF = E/V$), and field sensitivity for rod and loop antennas. A rod antenna picks up the electrical field, a loop the magnetic field. I also make a number of tests on a Conducted

Noise Source, which puts broadband noise on power wires, to see if it was consistent in time. And finally, I took my time to see the company and what the other 80 employees worked with.

Dag Abrahamsson

Age: 23 (during internship)

Area of study
Electrical Engineering.

During my stay, I was never given a chance to get bored. Both by new challenges at work and from all the places I visited, and the "austinites" that I got to know. I stayed with Bill Rickard, one of the employees, and his two daughters. Together, we had a lot of fun. Bill will never forget the Swedish way of doing the dishes!

Around the fourth of July, we had a four-day-weekend and took off to Dallas and Fort Worth. I really enjoyed the true Texas Rodeo I got to see. What a show! I also remember the town San Antonio with Sea World and its Riverwalk, where you feel like Venice or some other exotic place. And of course the proud soldiers in the home-coming parade. Not something a Swede is used to!

I knew before I came that the weather would be different for me. I expected a hot and humid place. Hot, yes, but still comfortable. And I love the evenings and nights when you still can walk around in shorts. Too bad I couldn't bring some of this weather to Sweden!

At last, I would like to give a special thanks to my host family, the Richards, and thanks to all the other people and organisations that contributed to my Texas summer!

DAG ABRAHAMSSON

Originally published as "Inside Austin City Limits" in "CETAC Trainee Report 91".

See what Abrahamsson thinks about his year with CETAC and EMCO today, 30 years later, in our interview with him on page 38.

Vi kan vårt jobb och gillar det vi gör.

På Handelsbanken Avenyn erbjuder vi alla banktjänster både för privatpersoner och företag. Hör av dig och boka in en tid för rådgivning. Välkommen!

Handelsbanken

Kungsportsavenyn 34, Göteborg, 031-743 87 50
avenyn@handelsbanken.se

EVIDENTE

Embedded excellence
evidente.se



Interview with CESIP Alumni

To celebrate CESIP's over 55 years of successful operation, we interviewed past members to hear what they think about their year with CESIP, and the experiences they gained, now.

Since his year with CESIP, Andreas Hallingström has founded multiple successful companies and is currently occupied with his latest venture - Cappy AB.

Dr. Sofia Rahiminejad has published over 20 scientific papers, has co-invented three patents and is

currently working in the Advanced Optical and Electromechanical Microsystems Group at NASA's Jet Propulsion Laboratory in California.

Dag Abrahamsson is currently working as the Head of Development at battery charger manufacturer CTEK, but has spent most of his professional life within the automotive industry.

Make sure to read up on each members travel story in the previous section before reading on!

Serial Entrepreneur

Andreas Hallingström



I guess my career path has been somewhat atypical for engineering graduates. Instead of applying for a job at a tech or engineering company I kept working as a self-employed, running my own business.

While still attending Chalmers, I launched my first business, and since then there have been many more entrepreneurial endeavours with setting up and establishing businesses both domestic and abroad. In the first few businesses I still held on to the engineering hat, assuming technical roles ranging from Senior Developer, Solutions Architect, Tech Lead, and Team Lead to then move more into the product landscape focusing on the customer more than on the tech. Having grasped the essence and what a vital component of a successful business that a customer-centric approach makes up, I then took on roles on the business side in my companies both as a CEO, COO, corporate and business development manager, strategy lead, as well as board and advisory roles for other businesses.

I now run a venture capital-backed startup in the HR/FinTech space called Cappy, where we work with employers to provide their employees with access to a portion of their earned income before payday, as a way of providing greater financial flexibility for workers. On the side I'm investing in other early-stage startups within industries such as FinTech, WorkTech, GreenTech, and FoodTech.

Since finishing your internship, what has your career path looked like?

NASA Scientist

Sofia Rahiminejad



After my summer at Cornell University, I started an Erasmus Mundus master program called Nano-Science and Technology. It was a joint program between KU Leuven in Belgium and Chalmers University of Technology, I spent the first year in Belgium and the second year back at Chalmers. During my masters I got interested in a subject called Micro-electrical-mechanical systems (MEMS), I did a master thesis at Chalmers on micromachined high frequency gap waveguides that later evolved into a PhD.

After my PhD I was trying to figure out what my next thing would be and after a conference in Las Vegas I went on an academic road trip through California to meet with different universities and institutions about future opportunities. When I got back to Sweden I decided to join Gapwaves as an engineer, Gapwaves is a spin-off company from a Dr. Per-Simon Kildal, a professor I was working with during my PhD.

Shortly after, I was awarded to be a Wenner-Gren fellow and got a scholarship to do a postdoc on RF-MEMS at Jet Propulsion Laboratory (JPL), which is a NASA center. After my postdoc I decided to continue my research there. I am currently working on all kinds of MEMS and at JPL and loving it.

Automotive Industry Wizard

Dag Abrahamsson



I wrote my master thesis at Telia and was subsequently hired for six months. After this, I held a temporary job tutoring in programming before getting my first permanent employment at LM Ericsson, where I worked on software for Japanese mobile phone radio base stations.

I started to work in the automotive industry in 1998 and have essentially worked since then in this industry, in software and systems development, project and line management for infotainment, active safety and communication systems, primarily for the companies Mecel/Delphi/Aptiv and Autoliv/Veoneer. The international exchange has always been an important factor for me, and presented with the opportunity to work within the automotive industry as a line manager in Germany, I accepted this.

Regardless of my current role, I have always appreciated the international aspects of my work, meeting and working with people from different parts of the world.

I am currently working as Head of Development at battery charger manufacturer CTEK. The company itself is in a stage of rapid growth, and I enjoy the quick-pace nature of this job.

2 Has your experiences or network from CESIP and your internship ever come in useful?

Andreas Hallingström

Definitely so! I believe that the outcome of every opportunity you come across is what you make of it, and being a young and driven individual I worked hard, learnt as much as I could, and reached out to anyone I found interesting; either on a work or personal level. You know, people are just people. No matter if they have a fancy title, are famous or well-known in their industry, or otherwise. What I learned in Silicon Valley, in California, is that most people aren't born with a silver spoon in their mouth. The ones who are successful have put in an enormous amount of work, sweat and tears to get to where they are today. Respect that, and respect the individual, and they will respect you back and help you out. I also gained many lifelong friends both in CETAC and in the Valley, who I still have contact with today.

Sofia Rahiminejad

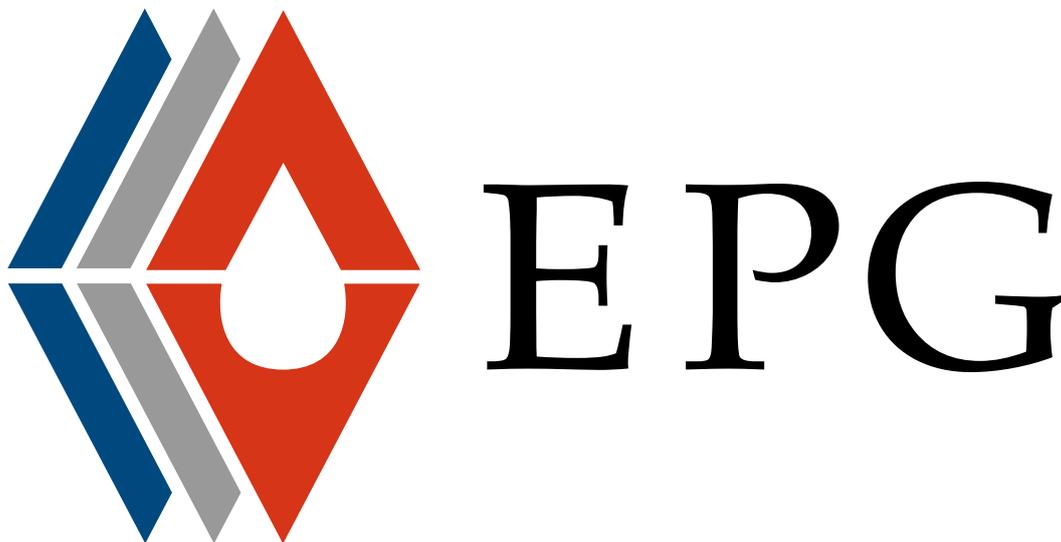
Based on my journey experience can sometimes be more valuable than grades. My CETAC internship taught me a lot about learning and working on my own. It was also very valuable to do so abroad, which taught me communication skills but also broadened my view of the world. By doing an internship in the US, I was more prepared for my international masters program. Both of these helped me get my PhD position and helped me win the award of Wenner-Gren fellow. When I moved back to the US my previous experience made the transition much easier.

Dag Abrahamsson

Yes, the experience of working abroad, and in a new culture, has made it easier for me to work internationally during my career.

I also believe that my experiences of American culture have been very beneficial when meeting and working with Americans in my professional life.

As an alumnus, I have also found great joy in helping subsequent CETAC boards and members.



Andreas Hallingström

Yes, many times. Both to the West and East coast. New York has a very special place in my heart, as well as the sunny Northern California and San Francisco.

The opportunity to work and to live in another country, and what comes with it in the form of growing as a person, being able to try out a job in your line of work before graduation and as such gain some experience to put on your resume, meet new people and experience a new culture. The time with CETAC and the time in the US is one of the best times in my life which I will always remember dearly.

I can't say there was, but I know that some members felt it a bit challenging to cope with the work of selling ads for the Trainee Report, in parallel to their studies, to actually be able to finance the trip to the US. But as long as your eyes are set on the goal everything becomes easier, you just need to push through and get the work done.

Sofia Rahiminejad

(As Dr. Rahiminejad is currently working, and living, in the US, we instead asked her: Do you intend to stay abroad in the future as well?)

I haven't made any decision either way, but at every crossroad in my career I have always picked the project that seemed the most fun and it has served me well so far.

The best part was all the friends I got while doing my internship, some of whom I'm still in contact with today. My internship allowed me to grow both as an engineer and also as a person. I became confident in my skills and in communicating with all kinds of people.

I did believe that the point system back then was not very fair and made members fight against each other instead of helping each other to all go to the US. It might be different now, but back then it created a lot of mistrust between the board and the members.

(The board of 2022 would like to note that the point system has since been revamped)

Dag Abrahamsson

Yes, for sure, I have travelled back to the U.S. many times, both for business and for pleasure.

A few years ago, during a family vacation I travelled to meet my old host family from my year with CETAC. Though it had been almost 30 years, it felt like we had seen each other just yesterday.

Being a member of CETAC was a good change of pace for me in my studies. I enjoyed working closely in a group, expanding my network as well helping future members of CETAC.

Overall, I greatly value my CETAC membership.

It's hard to come up with something on top of my head, but I do remember lots of paper work getting envelopes to be sent out to American companies to be kind of a tedious task.

But overall, my experiences with CETAC was almost exclusively positive.

3 Have you ever travelled back to the US after your internship?

4 What do you think is the best part of having been a member of CESIP?

5 Is there anything that you didn't like about being a member?

6 Anything else you would like to add?

Andreas Hallingström

I would definitely recommend anyone who's thinking about going to the US for a trainee position to do so. It's an invaluable experience not only workwise but also on a personal level. Would also like to add that if you have an idea for a product or service that solves a real problem, don't be afraid to not go the traditional way of getting an engineering position at one of the larger employers. Try your wings, don't hold back. There is a lot of help and supportive networks for young entrepreneurs out there, and society needs the drive and creativity of younger people to help accelerate the transformation in many industries to help both people and our planet.

ANDREAS HALLINGSTRÖM, 2021

Sofia Rahiminejad

Take the chance, you think that you will miss out on what is happening at home, but the truth is that home will be the same when you come back and you have everything to gain by going. This experience was truly a big milestone in my life and I don't regret doing it.

SOFIA RAHIMINEJAD, 2021

Dag Abrahamsson

From my year with CETAC, and the internship that followed, I have many dear memories.

One example is when I bought a large jar of maple syrup in Ohio, to bring home to my parents who loved the stuff, only to be stopped in airport security by a rather suspicious TSA officer.

Explaining that the golden goo was simply maple syrup, the officer simply laughed and said "aah, that's good stuff", letting me pass without further checks. I doubt the same would happen today!

DAG ABRAHAMSSON, 2021

CESIP Alumni

Want to know more about CESIP's alumni? Please see our website and the CETAC Alumni LinkedIn Group.



Website



LinkedIn



Redo för framtiden?
TRUMPF: The Power Of Choice



www.se.trumpf.com



Affärsmodellering

www.affarsmodellering.se



APPLICATOR | BARKVALL | SCANREX



We optimise
 your business
 essentials

OPTI GROUP 



Coherent Mölndal develops and manufactures optical components and fiber optic cables for high-power lasers.

www.coherent.com

*"Where Drying and Pyrolysis is the game
 - Torkapparater is the name!"*

AB TORKAPPARATER
 THERMAL PROCESSING EQUIPMENT

www.torkapparater.se





Greetings from the Board of CESIP 2022

CESIP is an organisation that is simultaneously both so young, yet with such a great heritage. With its predecessors CETAC and AMCIP having been founded in 1966 and 1963 respectively, CESIP has well over 100 years of combined experience in organising internships for Chalmers' students. Now, we will continue this tradition.

First of all, we would like to extend our sincere gratitude to those who support CESIP and, consequently, enable the program to be a continued success. We would like to thank the board of CESIP 2021 and, above all, we would like to thank the companies in North America for their hospitality and for making these once-in-a-lifetime experiences possible. We are looking forward to another exciting year of working together!

For the board of 2021, the ongoing pandemic caused great hardship. However, as we now see, they did not falter. We are thankful for their commitment,

and recognize the hard work they have put in during the past year.

As they now pass on the baton, one of our main goals for the coming year is to increase CESIP's presence on campus. We would find it regretful if interested students neglected to apply to CESIP, simply because they were oblivious about our organisation and mission. Meanwhile, we will nurture our long lasting relationships with our Swedish, US and Canadian friends, as well as build new bridges.

Lastly, we would like to thank our current members for a great time thus far, and we sincerely look forward to continue working with them the coming year.

Though these are troubling times, we will approach the year ahead with great optimism and enthusiasm, and we will work hard to secure rewarding internships for all our members in 2022.

THE BOARD OF CESIP 2022

Board of 2022

Back row, from left to right:

Casper Jarhult
Treasurer

Andreas Helgesson
Editor

Oscar Wernqvist
Sales Manager

Ludvig Rodung
Internship Coordinator

Hevar Djeza
Sales Manager

Front row, from left to right:

Ida Swegmark
Internship Coordinator

Lovisa Åkesson
Internship Coordinator

Tuss Anzelius
Chairman

Ida Olsson
PR & Event

Thank you

...for making the Chalmers Engineering
Student Internship Program possible.

- Chalmers University of Technology
- IOWN Renewable Energy Inc.
- Ressemble Inc.
- ALTEN Group (XDIN)
- Monte Stott and Associates Inc.
- NVI Inc.
- PACE Inc.

- Tatiana Pashman and The American Scandinavian Foundation
- Monitor Larm & Bevakning i Göteborg AB
- Industri Korp & Son AB
- B3 Consulting Group AB
- Energy Machines Sweden AB
- Göteborgs Skyltmontage AB
- Teknisk Matematik Chalmers



Company Index

| | | | | | |
|-----------------------------------|----|---------------------------|----|---------------------------------|----|
| AB Torkapparater | 43 | Condesign | 48 | Monte Stott and Associates Inc. | 45 |
| ABB Kabeldon | 33 | Contura Steel | 47 | NVI Inc. | 24 |
| ABB Sweden | 16 | Cornell University | 34 | Opti Group | 43 |
| ABUS Kransystem | 32 | DS Smith | 10 | PACE Inc. | 45 |
| Addtech | 32 | EMCO | 36 | Pålanalys | 19 |
| Affärsmodellering | 43 | Energy Machines Sweden AB | 45 | PMC Hydraulics | 33 |
| ALTEN Group (XDIN) | 45 | EPG | 40 | Refapp | 26 |
| Aplicator Group | 43 | Evidente | 37 | Ressemble Inc. | 45 |
| ASF | 45 | FOILEX Engineering AB | 10 | Sandvik Group | 14 |
| B3 Consulting Group AB | 45 | Göteborgs Skyltmontage AB | 45 | Santasalo | 18 |
| Bohlins Maskiner | 33 | Handelsbanken | 37 | Schaeffler | 18 |
| Cappy AB | 39 | Industri Korp & Son AB | 45 | Sibbhultsverken | 11 |
| CarryLine | 10 | Inhouse Tech | 10 | Teknisk Matematik Chalmers | 45 |
| Chalmers Area of Adv. Energy | 2 | IOWN Renewable Inc. | 22 | Trilogik | 19 |
| Chalmers Mechanical Engineering | 3 | IRF | 18 | Trumpf | 43 |
| Chalmers Studentkår Rekrytering | 46 | Jämtkraft | 17 | Unionen | 11 |
| Chalmers Sports & Technology | 3 | Källemo | 19 | Urban Ahlin | 15 |
| Chalmers Teknisk Fysik | 2 | Logiksystem AB | 43 | Virtual Engineering | 19 |
| Chalmers University of Technology | 12 | Mercedes-Benz | 30 | Wenell | 11 |
| Coherent | 43 | Monitor Larm & Bevakning | | | |
| Combine | 17 | Göteborg AB | 45 | | |

Looking for a job?

Right now we are looking for candidates for lots of exciting positions. Surf to our website or facebook for more details.

Chalmers Rekrytering is Chalmers student union's own recruiting company. We strive to help chalmers students to establish themselves in the work market.

Since our start in 2008, we have helped many students to take the next leap in their careers – and many companies to find the right student. We have done this so well, that we are today Sweden's biggest student driven recruitment company.



info@chalmersrekrytering.se



[chalmersrekrytering](https://www.instagram.com/chalmersrekrytering)



[Chalmers Studentkår Rekrytering](https://www.facebook.com/ChalmersStudentkarRekrytering)

SCAN ME

For more information

Designa ditt eget utekök



Svenskt utekök

När du väljer ett utekök från oss så får du inte enbart ett utekök, du får en bit svenskt hantverk gjord av de bästa materialen som finns att tillgå.

Tillverkat i vår fabrik i Mörrum.

För mer info gå in på www.conturasteel.se



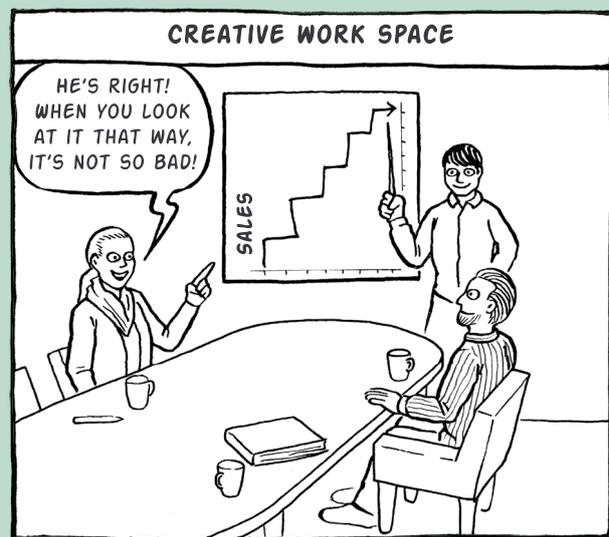
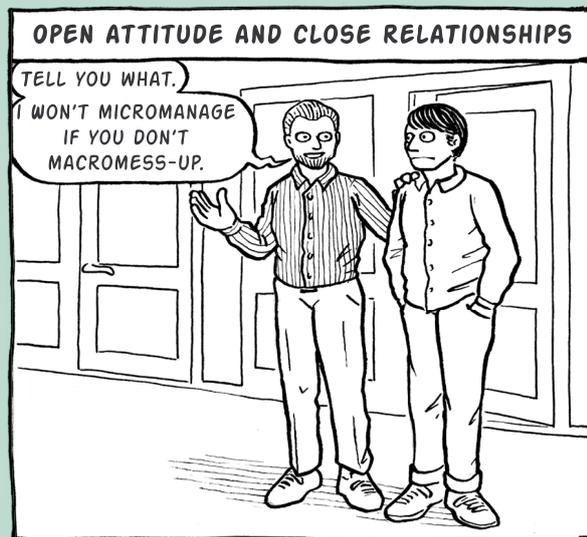
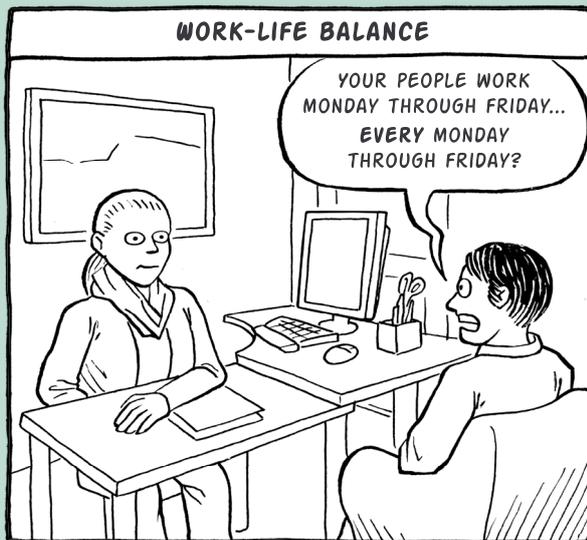
CONTURA
STEEL

Fabriksvägen 39, 375 30 Mörrum,
+46(0)456-485 00
www.conturasteel.se
kundservice@conturasteel.se



KICK-START YOUR CAREER BY JOINING **CONDESIGN**

Bringing together design and technology everyday, Condesign is constantly on the lookout for skilled and creative employees.



CONDESIGN is an industrial and communications consultancy firm which offers leading companies services and solutions for the entire product lifecycle – from design, marketing and sales to technical communication – in order to strengthen the competitiveness of our customers.

