

## Summer internship at Hitachi Energy Research in Västerås, Sweden

Dear readers and fellow students,

In this article I would like to share my experiences and some insights of the summer internship in 2024. Due to Covid during my Bachelor's programme there was no opportunity to go abroad, but for me it was my goal to go abroad before finishing my Master's programme. At the "VDE Zukunftsforum" in Landshut (Germany) I was lucky enough to get in touch with Dr Bernd Bitterlich from the ECPE - European Center for Power Electronics e.V. - a research network in the field of power electronics in Europe. Through the network I was able to send my application to companies I was interested in. Afterwards I was again lucky to receive a reply from Dr Tim Augustin at Hitachi Energy Research in Västerås, Sweden. Together with the team manager of the power electronics team, Dr Nan Chen, the internship was secured. Thanks to the International Office at the Friedrich-Alexander-University (FAU) Erlangen-Nuremberg, I received a scholarship within the Erasmus+ programme for traineeships abroad.

The topic of the internship was a feasibility study of wide-bandgap semiconductors in a three-phase active neutral-point-clamped industrial inverter using discrete surface-mount devices. For me, it was a perfect topic where I could apply what I had learned during my studies at the FAU Erlangen-Nuremberg. I also got an insight into the research environment of Hitachi Energy, learned a lot of new things and made contact with researchers. A perfect conclusion of the internship is that we are planning to publish a paper about my work.

I have also been able to improve my level of English just by speaking it regularly every day. After work, Västerås is a lovely city to experience Sweden. First of all, you have everything you need in a city that is slightly bigger than Erlangen and the fifth largest city in Sweden. There is also a university with some university sports, which makes it very easy to meet local and international students. Västerås is also connected to Lake Mälaren – the third-largest lake in Sweden – which is connected to Stockholm. The real beauty can be found in the small lakes around the city, some of which are the result of the area's mining history.

Overall, the decision to do this internship was totally worth it and it paid off in every way. I think the hardest part is getting the contact (which I was really lucky with) and hopefully this article will help you with that :)

Good luck!

Regards,  
Niklas Stöcklein

How to get the opportunity of an internship like me?

- Contact the ECPE (Bernd Bitterlich: [bernd.bitterlich@ecpe.org](mailto:bernd.bitterlich@ecpe.org)) with information about your preferred companies inside of the network (visible on the website)
- If you are interested in Hitachi Energy Research in Sweden, contact Tim Augustin ([tim.augustin@hitachienergy.com](mailto:tim.augustin@hitachienergy.com)) or Nan Chen ([nan.chen@hitachienergy.com](mailto:nan.chen@hitachienergy.com)) for further information.

- Check out with the international office at your university if you can apply for a scholarship within the Erasmus+ program for a traineeship abroad

BTW: If you are accepted for an internship, find out about the language courses offered at your university - they are free and you may be able to get the credits recognised in your programme. Not only will you learn the basics of the language, but you will also learn a lot about the culture in advance. This will make your stay abroad even easier.



Picture at Hitachi Energy Research in Västerås, from left to right: Dr Nan Chen, Niklas Stöcklein, Dr Tim Augustin