

In this newsletter of March we catch up on all the upcoming activities, past events and some interesting research!

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SNELLIUS NEWSLETTER

March 2016



Dear Test First Name

Winter is already over and thus cold and rainy weather hopefully changes into a nice, warm and sunny Spring! In this edition of the March newsletter we have Elma Tenner as our student of the month. She wrote an article about her internship at the KNMI in De Bilt. Furthermore we have an article written by Evert Mulder about the excursion to Shell which took place this month. The planning of the activities is finished up to May so you can all save the dates already. As always everyone is invited so staff, PhD and students! More information about Snellius can be found on: www.snelliusdispuut.nl.

Master student of the month

The master student of the month is Elma Tenner. She just started her thesis, but before this she completed her internship at the KNMI.

Spatial distribution of NO₂ at street level

KNMI, the Royal Netherlands Meteorological Institute is a perfect place

During the Zeist campaign a certain circuit was measured several times in the afternoon. Afterwards the data was analyzed using Python and QGIS and that resulted in figures about the NO₂ gradient near the highway and the NO₂ variation during the afternoon. The NO₂ concentration increased with a peak during rush hour.

The second campaign was held in Hoek van Holland and Rotterdam from

for an internship, in case you are interested in weather, air quality, seismology, satellite observations, climate or models, because that are the main topics they are working on. I worked at the department of satellite observations on a small project about air quality, especially NO₂ pollution.

NO₂ can be toxic and is produced by combustion, for example by traffic of the industry. There are many techniques to measure NO₂, but to measure with a high spatial resolution is difficult. However the KNMI designed a sonde which can measure with a high spatial resolution NO₂ at street level. The device can be mounted on a bicycle and measure mobile while cycling.

Currently, the research is focused on expanding and investigating the possibilities of the measurements, and on investigating the sensitivity and accuracy of the sonde.

I organized two measurement campaigns, one near KNMI in Zeist, the other in the area Hoek van Holland and Rotterdam.

7:00 till 18:00 h. Four cyclists cycled different routes in order to cover area as large as possible. The measurements were compared with fixed reference stations of DCMR and RIVM in order to calibrate and validate the measurements. The sondes measured stable during the measurement period and the resulted map, as shown in the picture below, can be used to localize hotspots or to give an overview for future research.

Overall, the internship was an interesting and valuable addition to my masters. The guidance was good, and they were open for new initiatives and ideas. Therefore I could join the project and also add own ideas. Due to the help and new experiences I have learned a lot, which will definitely help me in my future carrier.

By Elma Tenner



Master thesis and internships

For further information about available master thesis and internships, please visit the [Snellius website](#).

Shell Excursion

In the afternoon of March 10 2016, we went to visit the Geomatics department of Shell. First of all, we had a warm welcome by Principal Geodesist Dr. ir. Roel Nicolai.

After being screened, the program started. First, we had a welcome and health, safety and environment briefing, in which we were told all the do's and don't's at Shell, one of which, as we all remember, was holding the rail at all times when using the stairs.

Then the real program started. First, we had to give a presentation and tell Shell more about what we considered 'the

The highlight of the afternoon was visiting Shells iScope as can be seen in the picture. This comprises of an 11 by 2.5 meter tablet on a curved screen with an incredibly high resolution. During the demonstration, we had the opportunity of seeing some of the many applications this high-tech device has for different teams at Shell. They showed us the value of this technology for geoscientists, stressing the power of visualizing complex reservoir models in 3D high resolution. The iScope could help teams of experts to understand a reservoir and assist them in making important decisions. It was interesting to see all those possibilities with our 3D glasses

energy problem' and its impact on society. Although the presentation took slightly longer than planned, it resulted in a positive reaction. In our presentation we touched on several applications that are actually already being used in Shell, like deformation monitoring using satellites.

Next, Shell got several of its employees to tell us more about how GRS can be applied in Shell Geomatics. The Role of Remote Sensing was explained to us by an expert in the field, Giancarlo Cesarello, a Remote Sensing Analyst. During another session Robin de Vries, a geodesist and former GRS student at TU Delft, told us more about the application of geodesy in Shell. Maud van Haeren, a Geo-information Analyst, gave us inside about Geo-information Management Support of Exploration Activities in Shell. Last but not least there was a session on graduate recruitment.

on, making us a little dizzy with all this virtual reality.

After all the serious business was done, it was time for a more casual get-together, with some beers and snacks, at Bally's Restaurant. Personally I think that this was a good way to end the afternoon, as we got to talk to Shell employees on a more casual level. Overall this was a nice and interesting excursion and a good opportunity to get to know more about our possibilities within Shell.

By Evert Mulder



Picture taken by Máté Cserép

Upcoming activities:

- Tue 5 April - GRS Poster Day
- Thu 21 April - Snellius Drinks
- Tue 4 May - Snellius Activity
- Thu 19 May - Snellius Drinks

Want to stay up2date with all our activities? Subscribe to our calendar via [Google Calendar](#) or the [direct ICS link](#)



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