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

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# SNELLIUS NEWSLETTER

## May 2016



## Dear Test First Name

In this newsletter of May we have Dimitra Mamali as PhD student of the month with an interesting article about atmospheric observations using drones! Since the first-year students are going to Iceland for fieldwork soon, I have written down my experience in preparing for the fieldwork. The planning of the activities is finished up to the end of the year 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](http://www.snelliusdispuut.nl).

## PhD'er of the month

*The Ph.D'er of the month is Dimitra Mamali. She has done very interesting field campaign in Cyprus about atmospheric observations with drones!*

Hi all! Through this month's newsletter I would like to share with you information about my work and my involvement in a very interesting field campaign in Cyprus last month.

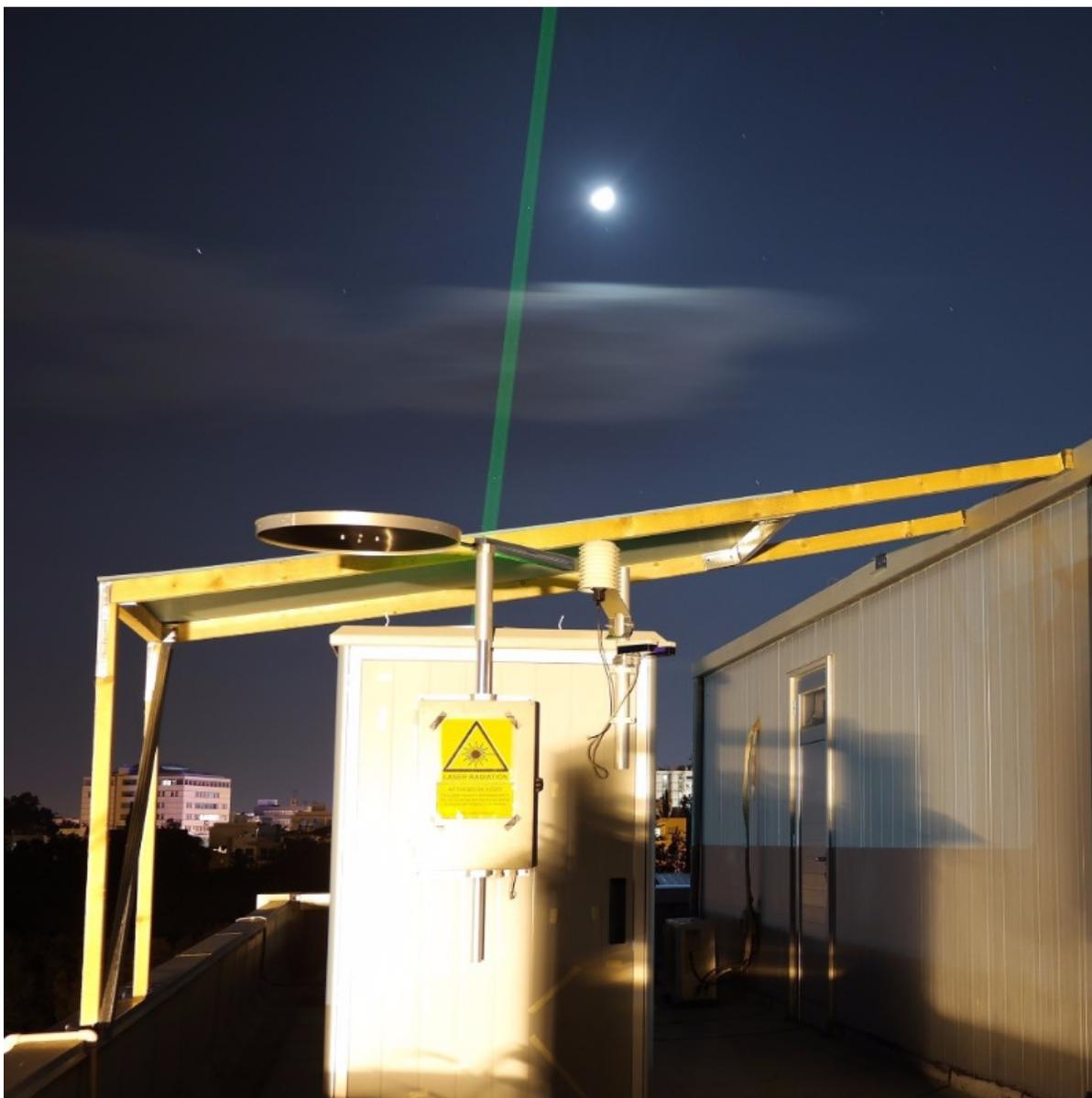
On the other hand, remote sensing techniques can provide information up to 15 km in the atmosphere but they do not provide as detailed information as in situ methods. Thus, the synergy of in situ and remote sensing techniques is the answer for providing accurate atmospheric measurements with high vertical spatial resolution.

In April 2016 the INUIT-BACCHUS

My work is related to atmospheric observations with remote sensing and in situ methods. But why is this important and relevant to us all? As you probably know, the climate is changing and thus it is crucial to predict the future climate in order to plan mitigation strategies. Global Climate Models (GCMs) are a valuable tool for predicting future climate and examining the influence of clouds and aerosols on global climate. Clouds and aerosols contribute the highest uncertainty to the estimation of the Earth's energy budget (IPCC, 2007) and thus we need to represent them better in climate models. Atmospheric models can be constraint and improved by comparing their output with atmospheric observations. Atmospheric observations are performed with in situ and remote sensing techniques. In situ measurements are accurate but they lack vertical spatial resolution as they measure at the ground level.

campaign took place in Cyprus. The focus of the campaign was to study the ability of dust to form ice particles in clouds. During this time, groups from many different countries joined forces to collect data from remote sensing and in situ instruments. The remote sensing measurements were performed by the Polly-XT LIDAR of the National Observatory of Athens (NOA). The in-situ measurements were performed on the ground as well as with drone flights at different altitudes and at different times of the day. My aim in this campaign is to use this dataset to develop a method to compare in-situ and remote sensing observations, and to investigate the aerosol size distribution at different heights in the atmosphere. The picture below shows the LIDAR of the NOA.

By Dimitra Mamali



LIDAR of the National Observatory of Athens (NOA).

## Iceland fieldwork

Only a few weeks of hard working and studying left before the first year students are going to Iceland to do some fieldwork there. From my point of view, everyone seems very excited to go and experience the beautiful mountains, glaciers, and lakes. But besides those dreams of majestic landscapes, fieldwork has to be

What I am wondering after reading all those amazing stories, is are we already able to do this? Using GPS, leveling, and gravimetry instruments.... I hope so. Luckily I have seen many pictures of teachers helping out in measuring.

But before we can measure and start the fieldwork we have to get to the village of

done as well. Lately, I was reading the blogs of last year's students on: [the GRS fieldwork Iceland weblog](#).

So what is actually the reason that we are going to Iceland to do fieldwork? Iceland is volcanically very active and there are many volcanoes and hot springs. The volcanic activity of the island as well as the use of hot groundwater results in movement of the ground. This is one of the things we are going to measure and explain there.

Another reason for going to Iceland, is to do research on what will happen when a nearby volcano erupts. Will the town be safe from the ash cloud or poisonous gases? Will the eruption affect air traffic in Europe again like in 2010 when the Eijafjallajökull volcano erupted? We are going to find it out!

Reykjahlíð where the fieldwork 'house' is located. I think many of you are getting there by bus, plane or car. With a small group of 5 students I have rented a car. When we were booking this car we didn't realize that the car would be very packed with five students with camping gear for 2 weeks. Sleeping bags, sleeping mats, pillows and not to forget, clothes. Iceland's the weather can change quickly from sunny clear moments to stormy and rainy days, the temperature can range from 0 up to 30 degrees on a hot summer day.

After all those worries about our abilities to do measurements, how to get to the fieldwork, and which clothes I should take... I noticed that the fieldwork will be great, and that last year's students had a lot of fun and amazing landscapes! So for all first-year students:

Gangi þér vel og hafa gaman á Íslandi!

## Upcoming activities:

- Fri 3 June - Spring BBQ
- Wed 8 June - KNMI Excursion

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



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