

CSDBInsiders



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Prize Puzzle**

INTRODUCTION

Dear CSDB students,

The cold weather of the winter is slowly turning into spring and we are happy to celebrate that with our second, Easter-themed newsletter! First of all, we would like to introduce our seven new February starters, who joined the program with an introduction day in the beginning of February. This edition will also highlight our latest activities: the seminar by the new Hubrecht group leader Franscesca Mattioli, our CSDB Game Night and last, but most certainly not least: our retreat-announcement. You can all start packing now! In addition, we have found two new students willing to tell about their experience abroad: Esther from Basel and Elisha from Boston. You can check out some of the pictures your fellow students made in their internships in the hall of fame; also including a photo of our new U/Select students. Finally, solve the puzzle and win a prize – as Thomas did last time, congratulations! We hope you will enjoy all stories and we will have more activities soon... See you then!

All the best,

StuCom '17/'18

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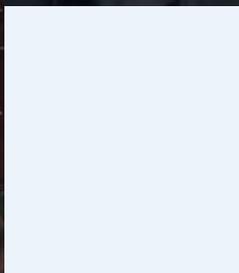
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FEBRUARY INTRO

New February Starters

Like every year, new students joined the CSDB program last February. This year, seven new students were accepted to the program and their introduction day took place on February 2nd. The students – from Spain, Portugal, Greece and the Netherlands – joined in the afternoon for a presentation by Joost about the CSDB program. After a talk by Esmée, who explained the StuCom activities, everyone joined for dinner at Restaurant Walden! The nice dinner was highly appreciated and was concluded with a picture of the seven February starters under the Dom of Utrecht. The evening ended in the Nieuwe Dikke Dries, where many CSDB students joined for some drinks to meet the new students. We hope that you all had a nice introduction and that you will enjoy the program and your time here!



FEBRUARY SEMINAR

DR. FRANCESCA MATTIROLI, HUBRECHT INSTITUTE

On Tuesday the 6th of February, it was time for our second seminar! At five 'o clock everyone joined together in the Ted Peek auditorium of the Hubrecht institute to listen to the talk of Dr. Francesca Mattioli. Dr. Mattioli finished her Bachelor and Master in Biotechnology, at the University of Pavia, Italy. Afterwards, she did her PhD at the NKI in Amsterdam and then moved to the United States for a postdoc at the University of Colorado Boulder. Now, she is back in the Netherlands and she will soon start her own research group at the Hubrecht Institute, here in Utrecht.



Dr. Mattioli is interested in epigenetics and focuses mainly on nucleosome remodeling. During her talk she explained the structure of the histone octamers around which the DNA is packed. She further elaborated on the mechanisms and main components of epigenetic inheritance. During DNA replication, all nucleosomes need to be disassembled and rebuild in a fairly short amount of time. Histone chaperones play a large role in this process and the research of the Mattioli group is largely focussed on one of these chaperones, CAF-1.

CAF-1 is mainly involved in the reassembly of the nucleosomes on the DNA. After replication, a complex consisting of CAF-1 and a histone dimer binds the leading strand, which allows further nucleosome assembly with the other histone dimer. Using mass-spectrometry and crystal structure analysis, it was found that several domains of CAF-1, with specific functions, are important for this process. Dr. Mattioli also showed that CAF-1 is involved in the speed and efficiency of nucleosome assembly. As an example, she showed that nucleosome assembly on the lagging strand took much longer when CAF-1 was depleted. Altogether, Dr. Mattioli showed very nicely how her studies unravelled the largely unknown field of nucleosome assembly, which was highly appreciated by most students.

The content of Dr. Mattioli's talk had strong overlap with the course Gene Expression, Epigenetics and Disease, which many of the master students had attended the week before the seminar. As a consequence, the content of the seminar was judged by most attendants as relatively easy to follow in the questionnaire that was sent afterwards. Many students liked the topic of the talk and the short introduction about her personal career at the start of the talk.

After the seminar, it was time for dinner in the Hubrecht canteen. Unfortunately, the delivery of the drinks did not work out well, as the delivery service failed to find the Hubrecht. Luckily, you could all find comfort in the pizza, the non-alcoholic drinks and the good company. Overall, the evening was graded with a solid 8, and we thank you for all the feedback. We liked it very much and we hope to see you again soon!







GAME NIGHT

STUCOM GAME NIGHT

On the 15th of March 2018, it was time for our second social activity: the Game Night! An activity requested by many of you, and we also very much liked the idea of an evening filled with playing games. Right after the GSLS seminar, many of you joined us at the Stratenum to have a chat and a beer with your fellow students. Not long after that, the Chinese food arrived and everyone could enjoy their dinner.

While everybody was enjoying their food, we had an exciting announcement to make, as we were finally revealing this year's retreat location! We made an announcement video, which you can all watch on our Stucocom Csnd Facebook page, revealing that we will visit both **Antwerp** and **Ghent!** :) You've all received an email with important retreat information, and further on in the newsletter you can find some fun facts and beautiful pictures of Antwerp, Ghent, and Belgium in general.

After this exciting reveal, we had another announcement to make: Thomas Kluiver won our first prize puzzle of the year, so he got a Tony Chocolonely's chocolate bar! If you want to be our next winner, go and have a look at the Puzzle Page and send us the correct answer.

In the meantime, everyone was starting to get excited about the games. So when all announcements were made and dinner was finished, everybody gathered in groups and the games could finally begin! Some students played small and easy or really difficult games in small groups, while others joined a large group to play Cards against Humanity. Eventually, everyone had found their place and had a really fun time. Although Sinterklaas and Santa had been gone for a couple of months already, we could still provide you with lots of (very sweet) candy from December. Together with some salty snacks, plenty of drinks, and of course the games, this resulted in a great evening!

We hope you all enjoyed the Game Night as much as we did. Have a look at our pictures below, and see you at our next activity!





GOING ABROAD!



ELISHA VERHAAR, BOSTON

Please tell us a little bit about your background.

Hi all! I am Elisha and some of you might know me from the Biomedical Sciences bachelor at Utrecht University already. I got interested in cancer research from the first year on, hence my choice to do the CSDB master's, of which I am in my second year now!

Which country and institute did you go to?

Whitehead Institute, MIT, Boston, the USA

Why did you decide to go abroad for your internship, and how did you end up at your current place?

I wanted to go to the USA for my minor research project ever since I started my Master's. I then found out about the great scientific community in Boston and decided this was the place to go. After one e-mail I got a position in the lab of Dr. Robert Weinberg.

Can you tell us a little bit about your current project and group?

I'm working on the role of super-enhancers related with P63/P73 expression in cancer stem cells of breast cancer using CRISPR/Cas9 technology.

What has been the hardest part about going abroad so far?

So far, the only 'drawback' I've encountered is the biking culture. I almost had an accident 4x already and I ended up on the 93 interstate once... So be prepared for near-death experiences if you really want to fulfill your Dutch biking necessities here! Apart from that, the general costs of living are really expensive in the Boston area with single-room rents exceeding \$1000 a month.

What has been the best part about going abroad so far?

Both the project and the group are amazing! I learn a lot of different techniques and the people in the lab are really friendly. Dr. Weinberg is a really nice as well. He speaks about six different languages fluently (among which Dutch – it threw me off the first time I spoke to him!). We often have nice cultural events like an Indian Christmas lunch or Chinese New Year's lunch!

What are your favourite places to visit in your current city?

Apart from the time at the lab, living in the Boston area is great as well. In the last few months I've made a lot of friends with whom I celebrated Thanksgiving or went traveling with. Boston is ideal if you love traveling as you're really close to New York City, great skiing area's and the Canadian border. Boston itself has a lot to offer as well. It has a really 'European' vibe, especially in the Back Bay area, with cobblestone streets and brown brick houses. I also really like how in Cambridge and Somerville have cute little squares (Harvard Square being my favorite) with good restaurants, nice shops and fun bars and cafés.

If you would have to give one tip to students who want to go abroad, what would it be?

If you've decided to go abroad for your second internship, I highly recommend using the app 'Meetup'. This allows you to go to countless different events with dozens of different interests, like scavenger hunts, wine tasting or dancing classes and meet new people there! This might help you kick start your new social life abroad! All in all, I wish you all the best of luck in your quest to find the perfect internship abroad! Enjoy your time there and make the best out of it!





ESTHER UIJTTEWAAL, BASEL

Please tell us a little bit about your background.

So far, I did three long internships: two during my bachelor at the University of Applied Sciences (Hogeschool) in Utrecht of which one of them was abroad (Edinburgh, Scotland) and one at the Hubrecht Institute for the master.

Which country and company did you go to?

Novartis (Institutes for BioMedical Research), Basel, Switzerland.

Why did you decide to go abroad for your internship, and how did you end up at your current place? Was it hard for you to arrange this internship?

For my fourth internship I wanted to do something different. I liked my previous experience abroad, so I searched for an internship abroad, but instead of in academia I wanted to go to a company. This appeared to be a bit more difficult than I hoped. Connecting on LinkedIn to people that I knew via others and worked at companies in Europe helped to get information. But to get specifically this position I reacted on an advertisement that was forwarded to everyone in the Hubrecht by someone that knows my current supervisor.

Can you tell us a little bit about your current project and group?

I am working on luminal breast cancer, in which ESR1 is the main driver for tumour proliferation. ESR1 is also expressed in tumours that are resistant for (hormonal) therapy. During my internship I use different CRISPR-Cas9 methods as well as drugs to inhibit ESR1 in order to characterize regulatory elements of ESR1 and other target genes of these regulatory elements. In this way we try to identify mutations and mechanisms that are involved in the therapy resistance.

What are, according to you, the most striking differences between research in academia and at a company?

You get paid as an intern in a company, everything like a laptop, e-learning, trainings etc is arranged (this mean a lot of paperwork as well). It's all about networking in the company world, this often includes nice lunches or drinks. Collaborating with different labs or departments is easy and really common, but only within Novartis. The research within a company is more applied and translational and often focused on drug discovery. There is also a bit more budget, although there is still a limit for every lab/department and during my previous internships I did not really experience a lack of money either. Furthermore, I heard it is more difficult to publish if you are working in a company, because patent officers need to check all the results. So far, I have not met any PhD student, as companies usually do not like the training part (time consuming and probably also the need to publish is for companies too complex regarding to patents). The PIs or postdocs worked mostly in top institutes all over the world, so in industry they have a lot knowledge and also perform high-level research.

What has been the hardest part about going abroad so far?

I have been abroad before so I kind of knew what to expect of moving to a country within Europe. However, Switzerland is within Europe, but not in the EU. So I was surprised by the amount of paperwork.

What has been the best part about going abroad so far?

I am living in an accommodation with master students or recent graduates that are all doing an internship in Novartis. It is a lot of fun to meet all this new international people and to enjoy the evenings and weekends with them or to travel around in Switzerland.

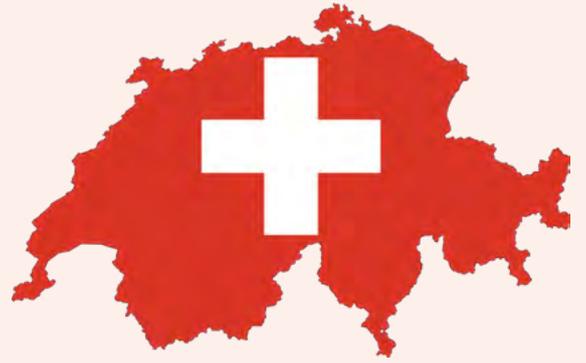
What are your favourite places to visit in your current city?

I like the view of the Rhine at every time of the day. But the smaller river close to my house is also a perfect place to bike or walk along.

If you would have to give one tip to students who want to go abroad, what would it be?

Just do it! The money you can earn back later, but now is the time to meet new people. That's also another tip, try to find housing in a house with a couple of internationals. In my experience, these are the people you can hang out with and they will be your friends for a long time.





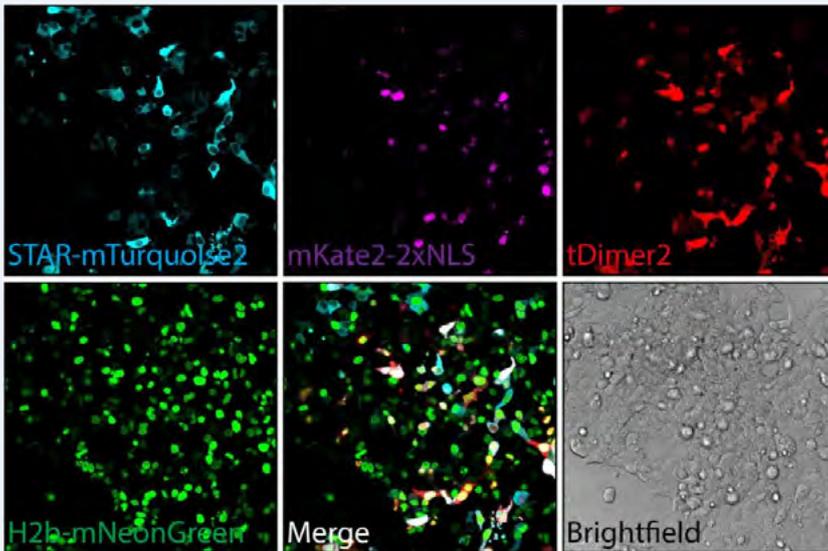


HALL OF FAME



Did you get some nice results? Presented at a conference, or maybe just visited one? Did you achieve something amazing outside of the lab? Immortalise it here in our Hall of Fame!

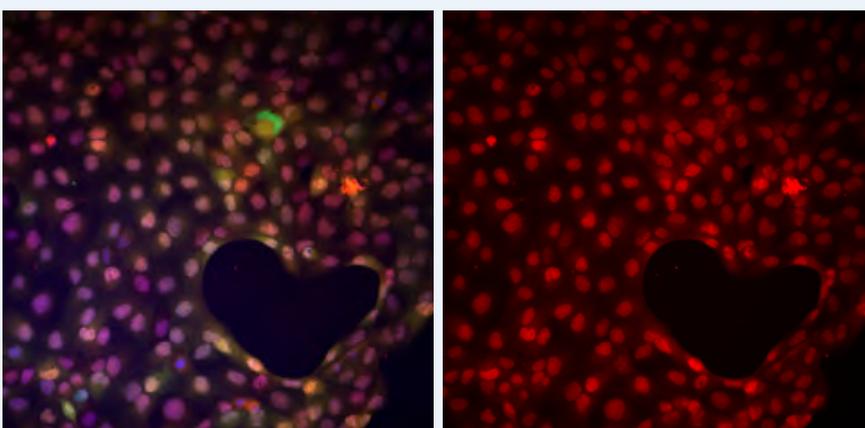
Dennis Timmerman, 'A plate full of STARs'



Confocal microscopy images of HEK293T cells transfected with ASCL2, - catenin S33, a Confetti4 construct (H2b-mNeonGreen, tDimer2, mKate2-2xNLS and mTFP) and STARtrack, a stem cell reporter (Oost et al, 2018). Cells were induced with doxycycline and tamoxifen one day post transfection. Images demonstrate that cells that are STAR positive (STAR-mTurquoise2) are able to switch from H2b-mNeonGreen to tDimer2 and mKate2-2xNLS. Cells were imaged with a Leica SP8x reverse confocal microscope equipped with a white light laser.

U/Select 2018

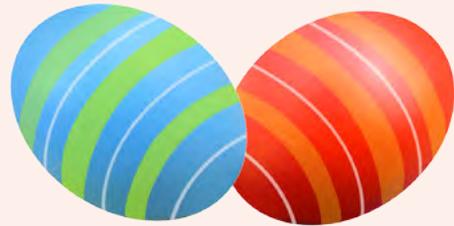
This year, five of our students got selected for the U/Select Honours Programme. Spot Emma, Esmée, Joris, Julian, and Ronja!



Ronja Houtekamer

Confocal image of MDCK cells with mNeon-APEX2-NLS. In blue you see the cell nucleus (DAPI), in green (mNeon) de localisation of APEX2 in the nuclei and in red (streptavidin-568) specific biotinylation of proteins in the nucleus due to APEX2 activity.

RETREAT 2018



CSDB Retreat 2018: Antwerp & Ghent

During our latest social event, the StuCom Game Night, we revealed the locations of this year's annual CSDB retreat: the beautiful Belgian cities Antwerp and Ghent. To get you as excited for this trip as we are, we collected some interesting facts and pictures about these cities. Enjoy!

Belgium

- Belgium is well-known for their beer; about 800 different kinds are brewed in the country, and on average Belgians consume 150 L of beer per person per year!
- Besides the loved alcoholic beverage, Belgians also love their chocolate: about 220,000 tonnes of chocolate are produced annually.
- Belgium is the 3rd country with the most vehicles per KM², just after Japan and the NL. Their highway system is so well-lit, that it is the only man-made structure visible from the moon at night.
- The highest point in Belgium is lower than the highest skyscraper in the world.
- If you're a fan of comics, Belgium is the place to be: the country has more comic artists per KM² than any other country in the world, beating even Japan.
- Belgium is the world leading exporting country of billiard balls.
- The word 'gas' was proposed by a Belgian chemist, when he phonetically pronounced the Greek 'chaos' in a Dutch way.
- Belgium is 312 times smaller than the US, but with a population of 10.5 million it would rank as the 8th most populous state, just between Ohio and Michigan.

Antwerp (French: *Anvers*, Flemish Dutch: *Antwerpen*)

- Besides Brussels, Antwerp is the largest and most populous city in Belgium.
- The city itself is situated on the banks of the Scheldt River, which divides the city into two.
- The name Antwerp literally means 'at the warf', which is fitting as Antwerp is the largest harbour city of Belgium, and second largest of Europe (Rotterdam is the largest).
- Another common legend about the city name origins comes from the giant Antigonus, who would throw (werpen in Dutch) the hands of inhabitants who could not pay his tax into the river. *Handwerpen* then became Antwerp over time.

Ghent (French: *Gand*, Flemish Dutch: *Gent*)

- Ghent was created as a settlement at the confluence of two rivers, the Scheldt and the Leie; the name is probably derived from the Celtic word for confluence, *ganda*.
- The Ghent population consists of at least 25% students; Ghent university counts 65,000 students.
- You cannot visit Ghent without trying its local candy: the *Gentse neuzekes* or *cuberdons*.
- The Ghent population loves to party: two of the most well-known festivities are the Gentse Feesten (13-22 July) and the Gent Jazz Festival (29 June to 8 July)
- If you like graffiti, be sure to check out the Werrengarestraat, an alley where street artists can legally show their creations.
- For lovers of vegetarian food, Ghent is the place to be: every Thursday they promote the vegetarian cuisine in public schools and civil centres. In addition, it is estimated that Ghent has the largest number of vegetarian restaurants per inhabitant nation-wide.





COLOPHON

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<http://www.flogentec.com/en/results-of-flo400-ishihc-and-fish-automation/>

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