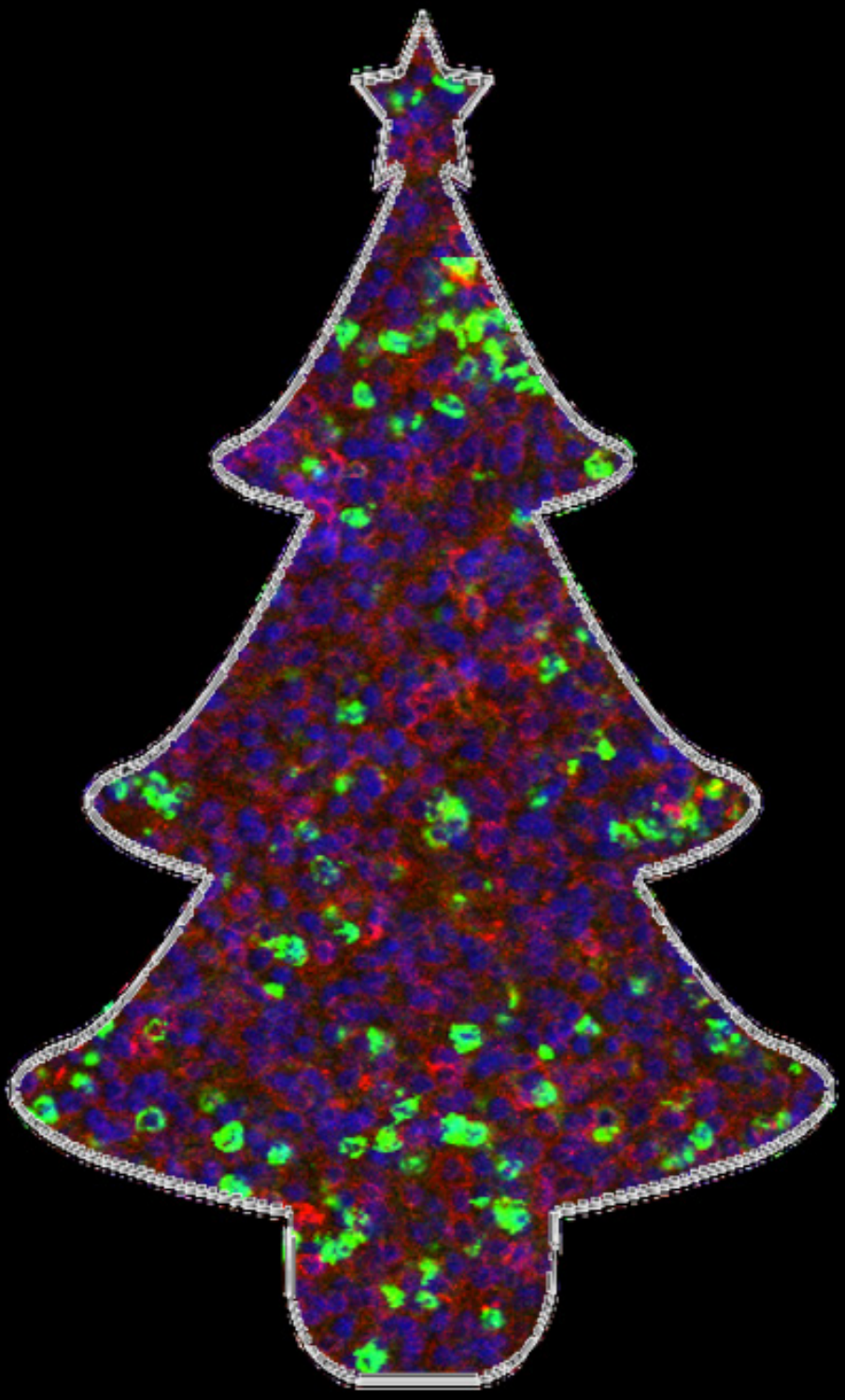
CSDB Insiders



Introducing: StuCom ‘17/’18
November Seminar
SinterChristmas Wnt’er Activity
Student Experience: Going Abroad!
Prize Puzzle

INTRODUCTION

Dear CSDB students,

We welcome you to the first edition of the CSDB Insiders, created by the '17/'18 StuCom! As the Christmas festivities slowly leave the country and the New Year arrives, we would like to take the opportunity to look back at the great activities we had in our short time as the new StuCom in 2017. This edition of the CSDB Insiders features an introduction to the new StuCom, an overview of the November Seminar by Dr. Marc van de Wetering, and a short report of the SinterChristmas Wnt'er Activity (including some lovely pictures!). In addition, your fellow CSDB students Iris and Marek tell you a little bit about their experiences so far on their internships abroad. In case you always wondered how to program a Snowman in R, we got you covered! Last but not least, do not forget to complete the prize puzzle at the end, as Santa is not the only one who can give out gifts...

We hope you enjoy our first newsletter, and are already looking forward to all the amazing activites we will organise for you in 2018!

All the best,

StuCom '17/'18

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"Never assume a person who has difficulty communicating has nothing to say!"

JULIAN BUISSANT DES AMORIE
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"My surname is free for interpretation, but I choose to tell people it means 'bubbling with love'."

LILIAN SLUIMER
Secretary – Social Activities
"You can always borrow my Vaseline lip balm, as I use it 24/7."

ESMÉE VAN VLIET
Treasurer – Newsletter – Seminars
"You can always ask me to go out to eat sushi or drink coffee together."

MARIO BARRERA ROMAN
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"CAT! Cat, cat, cat, cat, cat! I'm a cat person."

EVA VAN ALEBEEK
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"I am a huge Harry Potter fan!"

JONAS MARS
Secretary – Newsletter
"My expertise is distracting people from a tough day with games and laughs."

CARMEN RUBIO ALARCON
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"I like donkeys, as they are peaceful and cute… don't judge me."

STUCOM QUESTIONNAIRE

You've probably seen us around, perhaps you already went to one of our great activities. Hopefully, you enjoyed our first seminar and the Wnt'er activity – we did! However, we never really got the chance to introduce us to you. Hopefully, this questionnaire gives you some of the answers you have been wondering about. If you are still wondering about our favorite animals, proteins or scientists after reading this or if you have another question, do not hesitate to ask at one of our next activities!

1. What are your hobbies and interests?

CR: I started dancing salsa and bachata here in Utrecht and I LOVE IT. When I'm not dancing, I like to go for a drink with my friends.
EV: I enjoy reading and gaming and going out with friends for dinner (especially sushi!) or coffee. I also like anything to do with space, and have a great love for cats.
EA: I love music! I often go to concerts and festivals, and I play the guitar myself. Other than music, I love chocolate, drinking tea and watching movies with my housemates.
JM: My main interest, next to biology, is athletics. I am in the field of high jump (although suffering from injury). I also like to play games with friends.
JB: I love to go hiking in the summer with my cousins.
LS: I love eating, cooking, playing and cuddling with my dog (she is the cutest ever!), skiing, sailing, watching movies (especially minions!) and travelling.
MB: I enjoy reading and writing stories and playing video games. Of course, a beer with my friends and/or Netflix and chill is always needed to stay sane... Last but not least, I practice kendo, so if you ever see me carrying a very long bag... yes, there are swords inside.
ML: I like to read and cook for family.

2. Why did you join the StuCom?

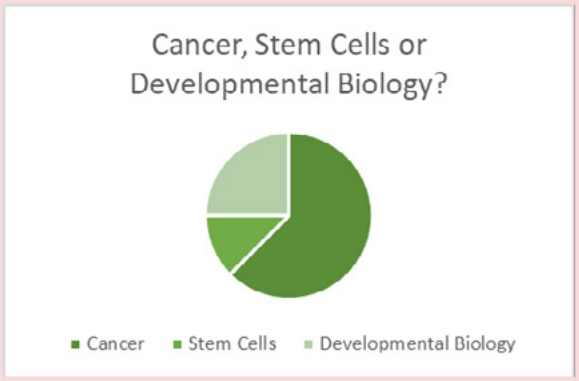
CR: I never did something like this before and I thought it could be cool to be more involved.
EV: I like being involved in the programme from a different angle than just studying.
EA: I really liked the idea of doing something next to my master, yet related to the CSDB program.
JM: I joined the StuCom to be more engaged in the community and to help organize the many fun activities!
JB: I wanted to contribute to the organization of activities for my fellow students.
LS: I like to organize activities and I wanted to be more socially involved during the master's programme.
MB: I've done a lot of student representation and LGBT+ advocacy in the past, which is difficult in Utrecht as a non-Dutch guy. Being in the StuCom is one step towards it! I also like organizing things and it's a nice way to stay in touch with everybody.
ML: During my bachelor, I joined the honours programme and I am co-founder of LabAcademy, an organization which organizes life-science related activities. I liked this a lot, so I wanted to continue that in my master.

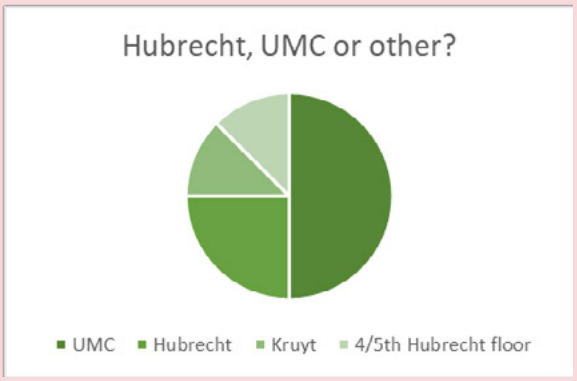
3. Which lab are you in, what is your research about and what do you like about it?

CR: I am in the lab of Onno Kranenburg, where we study the interactions between cancer cells and lymphatic endothelial cells. I mostly like the environment and diversity of our group.
EV: I am in the lab of Hans Clevers, where I try to establish circadian rhythms in liver organoids. The field of circadian research is quite hot at the moment and there is much more to discover.
EA: I am in the lab of Sander van den Heuvel, where I study the regulation of cell cycle exit my chromatin remodelers, using C. elegans. I like to work with C. elegans, as they are a very good model for developmental biology.
JM: I am in the lab of Jeroen Bakkers, where I study calcium cycling during the regeneration of the zebrafish heart. The use of model organisms has always been of great value for me, so that is why I think it is really cool to be able to work with fish.
JB: I am in the lab of Hugo Snippert, where I characterize the differences between an old FRET sensor or ERK activity and a novel one from our group. I like working with microscopes and making movies of live cells. It makes me realize I am truly investigating life.
LS: I am in the lab of Patrick Derksen and I will (hopefully) generate a tool to investigate the role of FER kinase in breast cancer metastasis. My research involves the cytoskeleton, which is super fascinating!
MB: I am in the lab of Paul Coffer and my project is about the role of T-cell autophagy in the tumor immune invasion. I like the fact that it is focused on the immune system, which hopefully makes it applicable for many different tumors.

ML: I am in the lab of Johan de Rooij, where I study the characteristics of cells leading invasion in breast cancer. I prefer to do fundamental research into cancer invasion and the importance of environmental factors, which are both covered in this project!

Graphical Representation of our Committee





4. What do you want to achieve?

EV: I would love to contribute to a project that can be applied in the clinic. For now, I plan to do a PhD after CSDB.
JB: I want to become PI of my own research group.
MB: World peace! No wait, Nobel prize! Definitely not.. ehmmmm.. cookies?
ML: I would achieve new insights in invasion stimulating factors at the moment. Later on I would like to contribute to knowledge about dormancy and cancer metastasis.

5. What is your greatest lab-achievement?

EA: I made a CRISPR/Cas9 knock-in strain within my first month!
JM: In the first week, my supervisor showed me a fish heart extraction once before leaving. Although having no experience whatsoever, I still managed to extract it correctly:)
LS: Nice sequencing reads after trying for 20 times!

6. What is your greatest lab-fail?

CR: Realizing after three weeks that I had been putting my organoids in medium with 1000% concentrated reagent.
EV: Panicking because my qPCR results looked weird and finding out that I put my plate in the wrong way around.
JB: I dropped my agarose gel before I could cut out the bands of DNA I needed.

7. What is your favorite animal?

JM: Although fish and worms are cool, I still prefer elephants.
LS: My border collie Benja!
ML: Koalas, kangaroos, meerkats, sloths and turtles. I can't choose.

8. Who is your favorite scientist?

EV: Am I biased if I say Hans Clevers?
JM: Gregor Mendel, for his perseverance and giant influence on biology.
LS: Bill Nye the Science Guy :)
ML: There are many great scientists: Albert Einstein, Stephen Hawking, Rosalind Franklin… My favorite Dutch scientist is Diederik Jekel.

9. What is your favorite gene and/or protein?

CR: To make the deadline, I finally filled in the quiz on https://www.cellsignal.com/contents/resources/what-kind-of-protein-are-you/protein-personality-quiz to find out what protein I am – a kinase! My presence is – apparently – exciting and I often motivate others.
EA: The rol-6 gene, because it reminds me of my Roller knock-in worms.
MB: TP53 because how cool is to be called 'the guardian of the genome'.

10. What secret do you want to share with everybody?

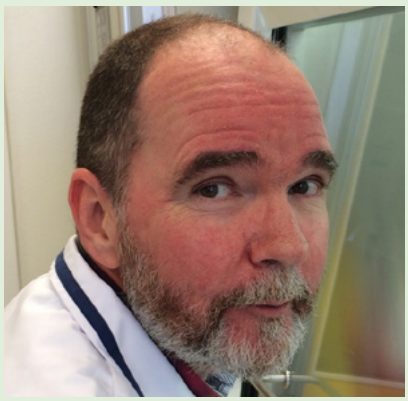
CR: I am really bad with names.
EV: Playing 'The Sims 4' is one of my guilty pleasures.
JM: Distinguishing GFP and mCherry can be hard for me, as I am color-blind for green/red…
JB: I am not French.
LS: I suffer from misophonia.
MB: My mom taught me the importance of discretion and trust so if I know something worth calling a secret then it will stay a secret.
ML: My secret is my communication disability, which makes it hard to communicate to you spontaneously. It's not because I don't want to communicate with you, but I just don't know how I have to communicate to you on that specific moment. So, please see my able, not my label.

11. CSDB students can always come to you and ask for …

CR: The difference between Spain and Mexico (nope, we don't wear cool hats) and advice about where to go for some salsa dancing.
EA: A cup of tea! And anything concerning the social activities organized by the StuCom of course.
JB: A cup of coffee and a relaxing chat!
MB: Deep conversation woefully lacking in conclusions about the meaning of life, the universe and everything else… And for science, too. That was the expected answer, right?

NOVEMBER SEMINAR

DR. MARC VAN DE WETERING



On November 8th, the first StuCom seminar of this academic year was organised by the new StuCom. The speaker of this first seminar, Dr. Marc van de Wetering, was one of the main contributors to the establishment of the organoid biobank created by the Clevers lab. A large part of the Cancer, Stem Cells and Developmental Biology Master students had signed up for the seminar and at 16:00 they filled the Ted Peek Auditorium of the Hubrecht Centre in excitement for the coming talk and promised drinks and pizza.

Van de Wetering has been part of the Clevers group at the Hubrecht Institute for many years and has contributed greatly to the development of the organoids and the organoid biobank. Soon he will play a large role in the creation of a new research group at the Princess Maxima Centre, which will be led by Hans Clevers. During his talk, van de Wetering focused mainly on the previous publications in the field of cancer and organoid research.

In his introduction, he used an animation commissioned by the Clevers group to remind the audience of the various cell types present in the small intestine. A clear description of the discovery of the Lgr5+ stem cell in the intestinal crypts followed. In the small intestine, the crypt base columnar cells had long been expected to possess stem cell properties. To test this hypothesis, a lineage tracing experiment had been set up and it was found that the crypt base columnar cells could indeed give rise to the entire population of small intestinal cell types. Two years after this research, these labeled stem cells were still visible in the crypt and villus. Taking into account the fact that the small intestinal stem cells had been observed to divide every 24h, this meant that the newly discovered intestinal stem cells did not abide to the Hayflick limit of 40 to 60 cell divisions.

Trying to exploit this apparent immortality, Toshiro Sato started to develop culture methods which could keep the crypt structures and later single stem cells alive in vitro. Eventually, he succeeded in growing the 3D cell structures we now all know as organoids. Organoids derived from intestinal cancer cells were later found to be very useful in the field of cancer research as they reflect the genetic heterogeneity of the tumour from which they originated. Therefore, they can also be used to predict patient drug response.

Marc van de Wetering concluded his talk with a fast-forward. Soon, organoid research will continue at the Princess Maxima Centre, where the main focus will be on understanding pediatric cancers of neural and connective tissues.

After the presentation, everyone enjoyed pizza and drinks in the canteen of the Hubrecht Institute. The accompanying pictures show that everyone had a very educative and fun time. Hopefully, we will all see you at our next seminar!


MAXIMA

SINTERCHRISTMAS

On the 13th of December 2017, the very first social activity of the new StuCom was held: the **SinterChristmas Wnt'er activity**! Since Sinterklaas and his Petes had to take off to Spain a week before the activity, they provided us with a long list of presents for all hard-working CSDB master students. Together with Santa Claus and his reindeers we explored the city center of Utrecht, and luckily, we succeeded in buying all the presents from the list.

A couple of days later, the date of the activity had finally arrived. Instead of simply giving the presents to the CSDB students, Sinterklaas and Santa had thought of some games to make the students fight for their presents and investigate their luck!

After eating lots of pepernoten and Chinese food, it was time to start with the games. The students had to throw dice, take cards, and fulfill all kinds of tasks they were asked to do. Whilst some students had all luck on their side and claimed all presents, others were much less lucky and could do nothing but gaze at the presents on the other side of the table. Fortunately, luck was mostly divided equally over all students as the game progressed, and at the end of the game, most students had at least one present!

The second game tested the students' capability of opening a present under pressure. Sinterklaas and Santa had increased the complexity of the game by making the students wear oven gloves while trying to open up a tightly wrapped present. Despite this handicap, all groups were able to open the present within 5 minutes, well done! Carmen, Clara, Dide, Konrad and Roksan were the winners of this game and walked away with an awesome prize!

We hope that you all enjoyed the activity and that you are happy with your presents! See you next time!



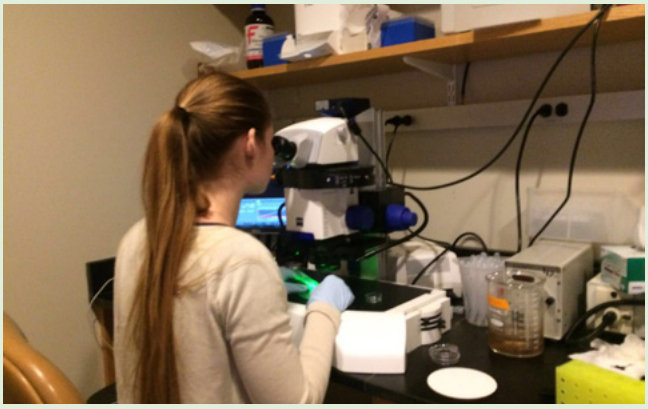









GOING ABROAD!



IRIS BALLY, BOSTON

Please tell us a little bit about your background.
Biomedical Sciences in Utrecht

Which country and institute did you go to?
Harvard Medical School, Harvard Stem Cell Institute, Boston, United States, Hospitals I work with are Brigham and Women's Hospital and Beth Israel Deaconess Medical Center.

Why did you decide to go abroad for your internship, and how did you end up at your current place?
I always thought I was going to do one of my internships abroad, but I didn't give it too much thought yet. I was doing a summer internship in the Geijsen lab at the Hubrecht when my supervisor heard of a scholarship that potentially applied to me. He suggested I compiled a list of labs I was interested in, and in the end I chose to go to the Goessling lab.

Can you tell us a little bit about your current project?
There is a clear correlation between liver cancer, fibrosis and alcohol overconsumption, but little is known about the underlying mechanism. Hepatic stellate cells are responsible for fibrogenisis in the liver. I study the response of hepatic stellate cells to alcohol induced injury, using Fluorescent In Situ Hybridization and immunohistochemistry in zebrafish embryos and adults.

What has been the hardest part about going abroad so far?
Missing my family and friends, and the Albert Heijn. You can buy a small house for the price of 3 broccolis.

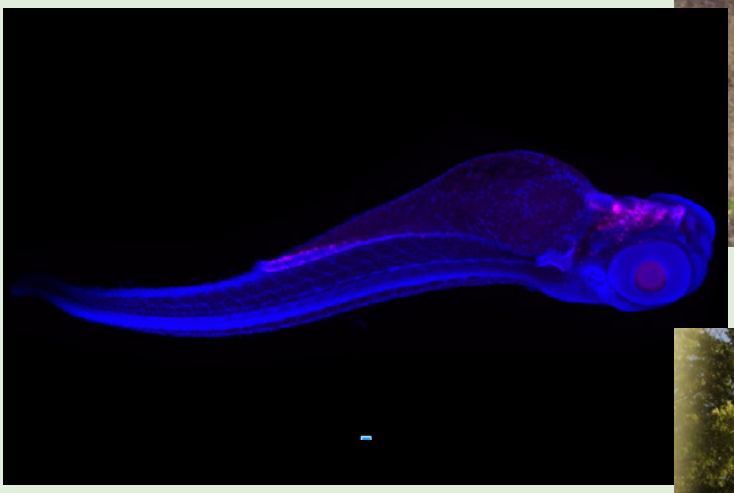
What has been the best part about going abroad so far?
I think it is very valuable to have some perspective. People at Harvard are way less intimidating than I thought they were, and the research is very similar to what we are doing in the Netherlands.

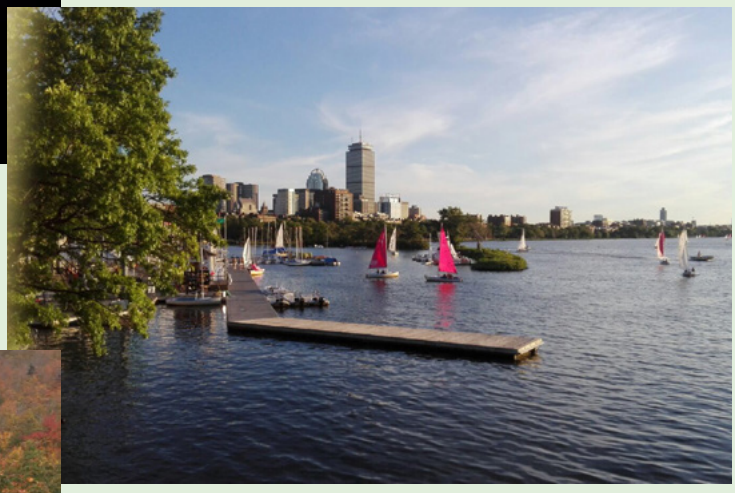
What are your favourite places to visit in your current city?
When you cross the bridge from Boston to Cambridge, you have an amazing view of the Boston skyline. It's especially beautiful at night.

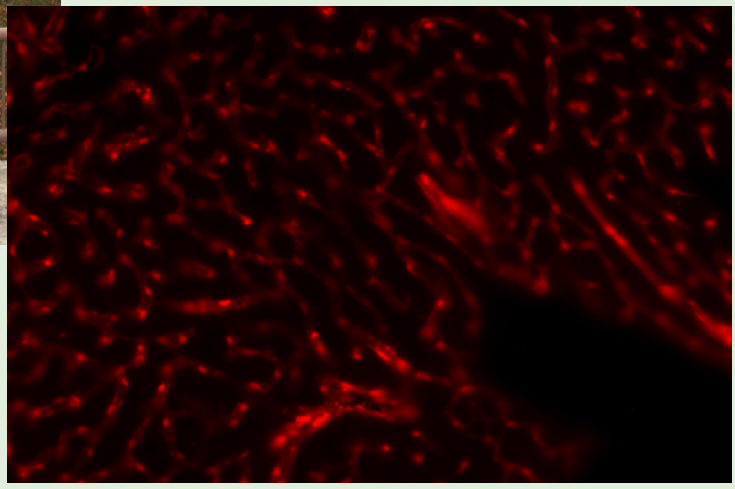
If you would have to give one tip to students who want to go abroad, what would it be?
Try to find a lab through connections you have, that way you are sure you end up in a friendly lab. I have heard some horror stories of other students here, who didn't know what they were getting themselves into and ended up counting the days they had left. It definitely helped me a lot that everyone in my lab is super nice and welcoming, and helps each other out where they can.

And try to avoid finding housing through Facebook; I ended up having to stay with a very creepy guy for over a month until my labmates rescued me.


NORTH ANDOVER PUBLIC SCHOOLS







MAREK VAN OOSTROM, ZURICH

Please tell us a little bit about your background.
Up till recently I have studied only in Utrecht while still living with my parents. I thought that going abroad was a good opportunity to step outside of this comfort zone and experience science and studying from a different perspective.

Which country and institute did you go to?
Institute for Molecular Life Sciences, Zurich, Switzerland.

Why did you decide to go abroad for your internship, and how did you end up at your current place?
I wanted to do my second internship in developmental biology, more specifically I wanted to work with zebrafish. Googling around for interesting labs provided me with a list of groups doing interesting research. I decided to apply for an internship at the Mosimann lab at Institute for Molecular Life Sciences in Zurich. Two interviews, two months and a ton of signed forms later I flew over to start working.

Can you tell us a little bit about your current project?
In the Mosimann group we study cell fate control during vertebrate development. We are especially interested in the organs that originate from the lateral plate mesoderm. Studying these processes required me to learn how to handle the fish and it involves a lot of lineage tracing/microscopy. In my project we try to unravel if the multiple endothelial lineages that arise during development of the zebrafish are formed separately or if they originate from a common progenitor pool of stem cells. To do this we use the Zebrabow fish in which every single lineage can be given a different color using CRE-mediated recombination.

What has been the hardest part about going abroad so far?
The biggest issues I have faced were that the Swiss people love the paperwork, this means that quite a lot of forms have to be filled in because it is not part of the EU, and the high prices of housing and food. However, with a Swiss scholarship it is manageable.

What has been the best part about going abroad so far?
I found my way in the lab and around the institute pretty quickly and felt very welcome. What I enjoyed the most is that by going abroad you break out of your normal routine of work, studying and hobbies and you can completely fill in a new routine. You meet many new people and you will be opened to many new experiences. Based on my own experience so far, I encourage other students to find something abroad that suits their interest.

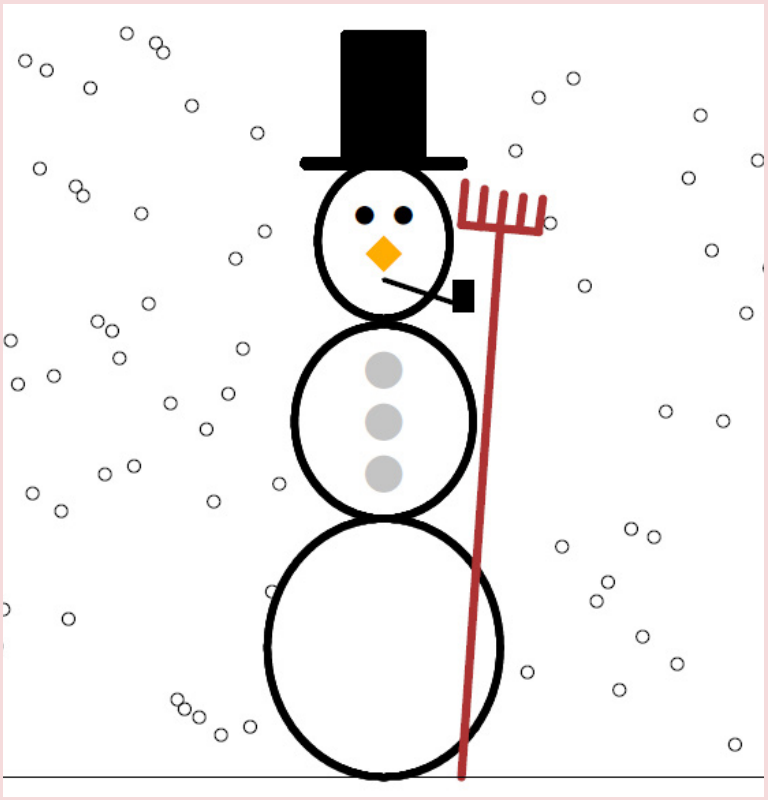
What are your favourite places to visit in your current city?
Switzerland is a beautiful country if you like skiing and hiking in the mountains, while I have also heard that in the summer the city is very lively: full of music and food festivals.

If you would have to give one tip to students who want to go abroad, what would it be?
I am currently going into my 3rd month in the lab and am still very eager to come to the lab every day. If you have any interest in going abroad but are hesitating, or if you have any question please let me know!


Universität Zürich
Campus Irchel
Vetsuisse-Fakultät,
Tierspital

SNOWMAN IN R

We can understand that, with the current lack of snow in the Netherlands, you need some other means to satisfy your winter cravings! This 'cool' snowman in R might help.



```
rm(list=ls())
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to = 7.3, length.out = 40),
                  seq(from = 13.4, to = 25, length.
out = 40)),
                size = 80))
snowflakes_y <- c(sample(x = seq(from = 1, to
= 12, length.out = 80),
                size = 80))
t <- seq(0,2*pi,length=1000)
head <- t(rbind(10+sin(t)*1.7, 8.8+cos(t)*1.2))
belly <- t(rbind(10+sin(t)*2.3, 6+cos(t)*1.5))
bottom <- t(rbind(10+sin(t)*3, 2.5+cos(t)*2))
eyes_y <- c(9.2,9.2)
eyes_x <- c(9.5, 10.5)
buttons_x <- c(10,10,10)
buttons_y <- c(5.2,6,6.8)

pdf(file = "Desktop/SnowMan.pdf")
par(pty = "s")

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    xlab = "",
    ylab = "",
    xlim = c(0, 20),
    ylim = c(0, 12),
    main = "Do you want to build a snowman?!")
mtext("How to build a snowman in R")
points(head, cex = 0.5)
points(belly, cex = 0.5)
points(bottom, cex = 0.5)
points(x = eyes_x, y = eyes_y, pch = 16, cex = 1.5)
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points(x = buttons_x, y = buttons_y, col = "grey", pch = 16, cex = 3)
segments(x0 = 8, x1 = 12, y0 = 10, y1 = 10, lwd = 7)
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abline(h = 0.5)

dev.off()
```
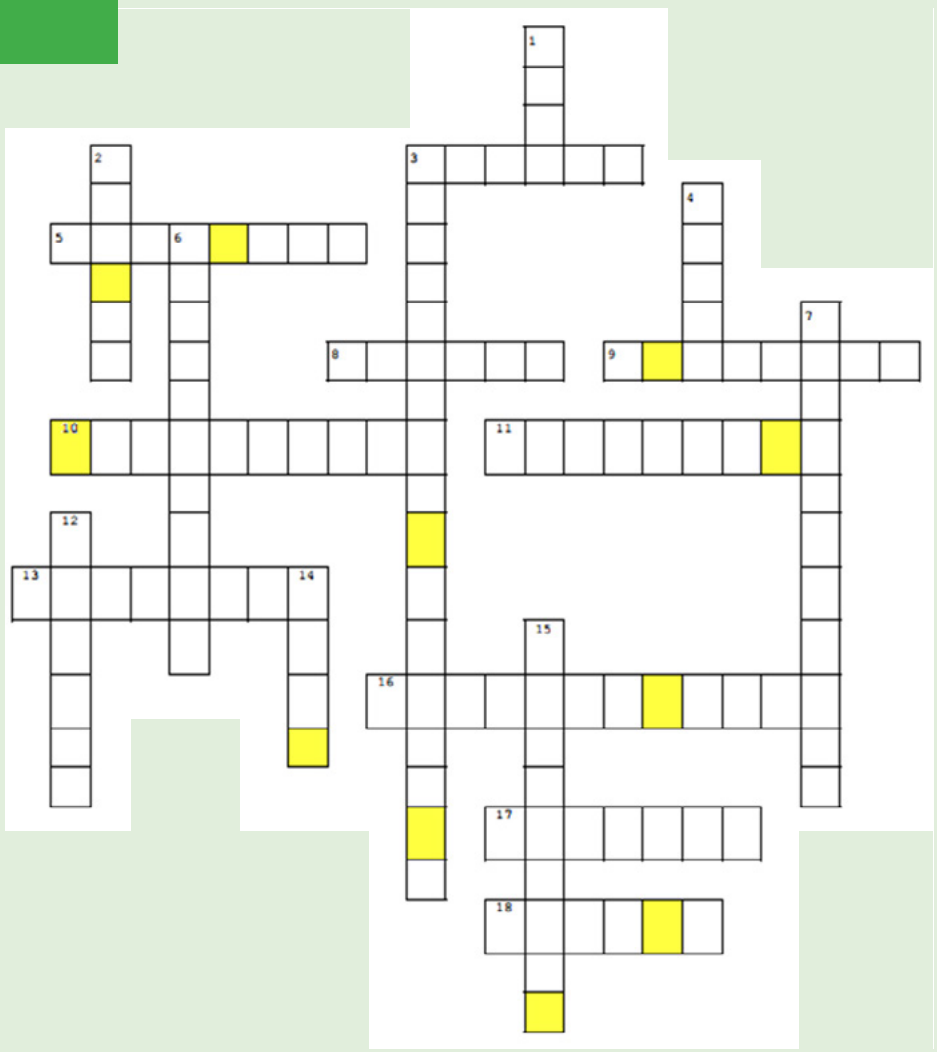

PUZZLE PAGE

Crack the code and send it, *before January 31st*, to: stucomcsd@gmail.com!

You might win a prize…

*Hint: the number given in the code is the **highest** number possible!*

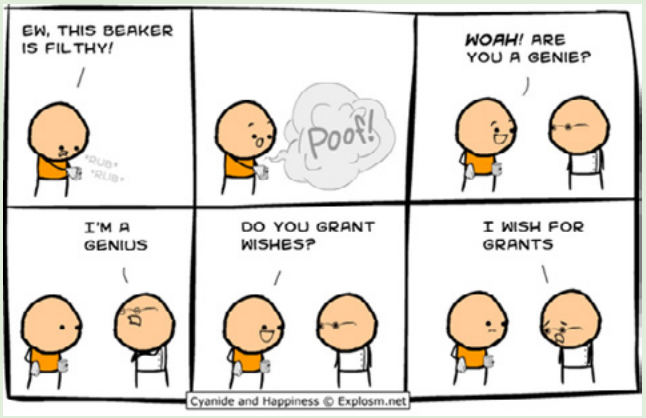


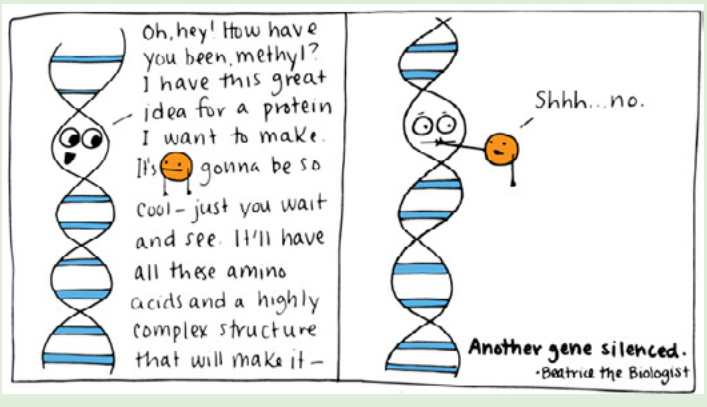
Horizontally

3. Almost two-third of the StuCom prefers this topic
5. Model organism
8. City where Marek studies
9. One of the many favorites of Marjolein
10. Model organism
11. Jonas' favorite sport
13. Research Institute
16. Lilian's pet
17. Carmen's hobby
18. Apparently, Carmen is this type of protein

Vertically

1. Name of the speaker of the seminar
2. Things everyone ate too much of at the activity
3. Eva made this within her first month
4. Model organism
6. Julian dropped it
7. Famous PI of Esmée's lab
12. Wants to become a PI
14. Mario's favorite protein
15. Model organism





COLOPHON

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STUCOM FACEBOOK
Stucom CSND

CS&D LINKEDIN
CS&D Master Students & Alumni

PHOTO CREDITS
NOVEMBER SEMINAR
Jonas Mars

SOCIAL EVENT
Carmen Rubio Alarcon

SPECIAL THANKS
Maroussia Ganpat - Cover photo
Iris Bally - Going Abroad
Marek van Oostrom - Going Abroad

NEWSLETTER DESIGN & CONTENT
Jonas Mars - Editor
Esmée van Vliet - Editor & Design
Lilian Sluimer / Eva van Alebeek - Social Event
Julian Buissant des Amorie - Seminar
Julian Buissant des Amorie - Snowman in R