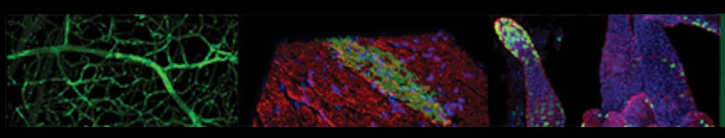
Cancer, Stem cells & Developmental biology

Newsletter May 2016



Students Committee
CSnD Master's Programme

Introduction

Dear CSND students,

The months have flown by since last September when I simultaneously became a CSND student and chair of StuCom. At that time I had few expectations as to the experiences I would have and the knowledge I would gain in both these roles. I basically thought: "I guess I will learn to pipette really well and maybe learn a bit of planning". Little did I know that the GSLS, and CSND in particular, had something slightly more overwhelming in mind. Before I knew it I was fluttering through the lab, one eye on my protocol, one eye on my pipette and both eyes scanning in all directions to make sure there would be no witnesses to any potential disaster I might cause. Careful planning became a necessity as the experiments had to accommodate a multitude of seminars: CSND seminars, GSLS seminars, StuCom seminars, lunch talks, occasional symposia, and - when I was quick enough with enrolling - seminars for your courses. Everywhere I turned there were people standing ready to provide me with knowledge, guidance and/or advice. It goes without saying that the meager expectations I had at the beginning of the year were far exceeded.

What was most surprising, however, is how much all of us seem to enjoy it. Everyone that I speak about their project seems very enthusiastic and proud of their work. Although for most of us there has been many a moment of disappointment and despair, the progress that we made apparently outweighs any set back. This attitude and the atmosphere it creates is really motivating.

This is why it has been especially exciting for me and the other members of StuCom to organize the retreat for this year. As you can read further on in the newsletter, we were able to secure really interesting talks at a big multinational corporation and at two different research institutes. In addition, you will be able to catch up on your fellow student's research during the three oral presentations and the poster presentations. And once you've had your fill of academics, there are the evenings which will be free to relax, have a drink and explore Brussels!

I suggest you read on to learn more about the retreat and to catch up with recent CSND activities!

All the best,
Franka.

Content

StuCom Seminar

Using light to dissect and direct cellular organization and dynamics

With his technical background, Lukas Kapitein ones again showed how important inter-disciplinary thinking can be in science. Now stationed within the field of cell biology the group leader started his academic career in physics until he became interested in the peculiar motor proteins wandering through our cells, carrying a wide variety of cargo from one side to the other. With his background and his interest in the visualization of this process, he started his research into these proteins by improving the current ways in which these proteins and there walking tracks were studied. For this he takes a special interest in the neurons as they form a nice example of how the distribution and transportation of organelles and other cellular components can have a distinct functional role.

The first step was the visualization of the tracks of the motor proteins; the complex and dynamic microtubule network within the cell. As conventional light microscopy is limited in its resolution by the wavelength of light, this approach doesn't allow for the detailed localization of the cytoskeleton network. To overcome this problem, Lukas Kapitein uses super resolution microscopy. Super resolution microscopy solves the problem of diffracting light, by only capturing the light of one molecule at a time. This way you can still point to the middle of the blur of diffracted light and determine the exact location of that molecule. This very simple idea took some seriously clever chemistry (awarded with a Nobel prize) to trap fluorophores temporarily in a quenched state which could be reverted by adding the right concentration of buffers. This form of super resolution allows for the activation of fluorophores in such a low and alternating fashion that the separate molecules can be determined. Another way of performing super resolution microscopy is by making use of UV-light activated fluorophores.

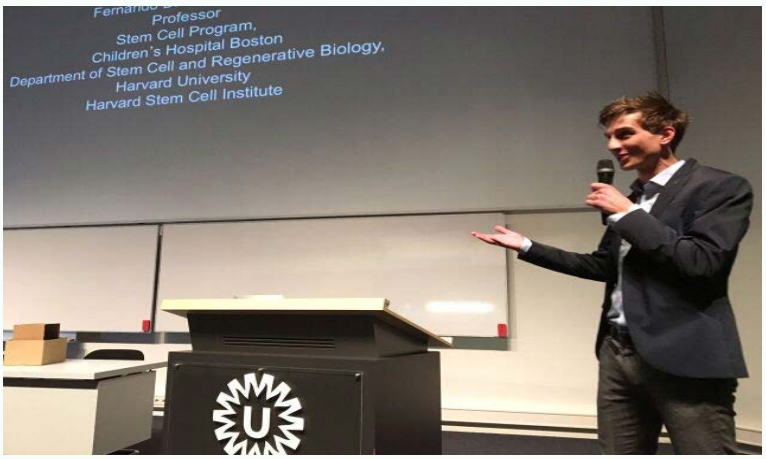
In his research, Lukas Kapitein exploited this technique by making use of nanobodies against tubulin with attached fluorophores. The stochastic binding of these nanobodies allowed Kapitein to verify the differences in microtubule structure in different stages of neuronal differentiation. However, the obtained information on the microtubule network still lacked an essential piece of information; the orientation in which the different microtubules were directed. Adjusting and combining multiple techniques, Lukas Kapitein was able to add this piece of information to his motor protein road map. Adding purified motor proteins with known directionality to a maintained microtubule network of fixed cells allowed him to identify the orientation of individual microtubules. Within the neuron the same orientation seem to bundle together, suggesting a potentially unknown mechanism of bundling microtubules. The overall percentage of inward and outward pointing microtubules was about 50/50.

Besides this interest in the microtubule structure, Lukas Kapitein also tries to elucidate the influence of localization and transportation of organelles and other intracellular components. For this he uses optogenetics to control biological processes using engineered light sensitive activators. Showing the light inducible LOV-domain as an example, he showed how focusing of a UV-beam resulted in the uncaging of migratory components resulting in movement of the coupled protein.

CSnD Seminar 10th of May 2015, by Lukas Kapitein

StuPics

Last month's GSLS seminar was introduced by Rutger ter Horst (CSDB and U/Select 2014) who enthusiastically set the floor for Prof. Dr. Fernando D. Camargo. Camargo, Department of Stem Cell and Regenerative Medicine, Children's Hosiptal Boston, presented his work on clonal dynamics in the hematopoietic system. His talk was tailored specifically for the multidisciplinary audience where he gave an interesting account on his research in blood, ancestry and individuality.



'Over the past several years, my laboratory has developed novel genetic tools for the clonal tracing and imaging of hematopoietic populations in the unperturbed niche that aim to bring insight into the biology of stem and progenitor cells in situ. Our work using a transposon-mediated cellular tagging approach indicated that progenitors, and not the classical long-term HSCs, are the cells mainly responsible for the day-to-day production of blood cells in the adult. Our data also suggested that lineage restricted progenitors are the main contributors to hematopoiesis at steady state. These data represent the first systematic analysis of clonal fate in an unperturbed hematopoietic niche and revealed a novel cellular mechanism for homeostatic blood regeneration.'
taken from Study Guide Graduate School of Life Sciences - Courses.

Internship Abroad

A 'Wee' time in Edinburgh!

As some of you may know, the week before I started my internship in Edinburgh was quite crazy: I was finishing a course, writing the thesis and packing the luggage in the night before I left. I wouldn't recommend such a strict schedule to anyone, but on the other hand this was me: a bit chaotic, but in the end everything turned out well and I never regretted that I went to this beautiful city.

It was January 2015 when I started looking for labs within the UK. My first internship was focused on fundamental cancer research. Therefore, I was looking for a subject within the translational cancer research field to broaden my horizon. I had never worked with animals and I had little experience with confocal microscopy, so with these two criteria I started browsing the internet. It took quite a while before I successfully found an internship, but my patience was rewarded. I had contacted Val Brunton (Edinburgh Cancer Research Centre, Edinburgh, Scotland) and thanks to connections within the UMC I was invited to start my internship in November 2015. The journey had begun!

From the moment I saw the beautiful landscape with all the hills and lochs of Scotland from the airplane window, I forgot the chaos from before and it felt like I was on holiday. Scottish people are extremely kind and helpful, but prepare yourself for the accent! I'm still adding Scottish words to my vocabulary every day (even though I don't know if they will be useful outside this country). One of the typical Scottish words is 'wee', what we could translate in 'gezellig' in Dutch. They add it to everything what looks or sounds small and cosy, so be sure you know this one! The whole city consists of old buildings, with a beautiful architecture. You find lots of churches, cathedrals, castles and hidden small streets and shops everywhere. Within half an hour you are on Portobello beach, you can walk to Cramond island with low tide or take a bus to visit the highlands. It is like being in the Harry Potter movies for real. You can climb up hills with spectacular views over the city and you find lots of free (!) museums. There is so much to do that I still feel like a tourist after spending 5 months here. I've met people from all around the world via Erasmus activities and other contacts. We regularly go to pubs, do trips together and spend our evenings in bars with live music through the night. In this city there is always something to do for everyone!

Of course I am also working in the lab in the meantime. I work on invasive lobular breast cancer and I use the zebrafish model to investigate the metastasis and dissemination of different mouse and human breast cancer cells. I've started up the use of zebrafish in the lab, which means that I am the only one working with zebrafish. Maybe it doesn't sound optimal for some of you, but I have to say that being thrown in the deep end really helps you to develop some new skills. I am learning techniques in three different labs of two different institutes, I've increased my connections a 10-fold within a couple of months and everything I do with the xenograft zebrafish models is of great use for the lab. The work is definitely variated and there is always someone willing to help you. The people working in the lab are from all around Europe, which makes it a nice mixture of social people. Every Friday afternoon we end up in a pub, like a real 'vrijdagmiddag borrel'. If you like being a bit more independent, then I can really recommend this lab!

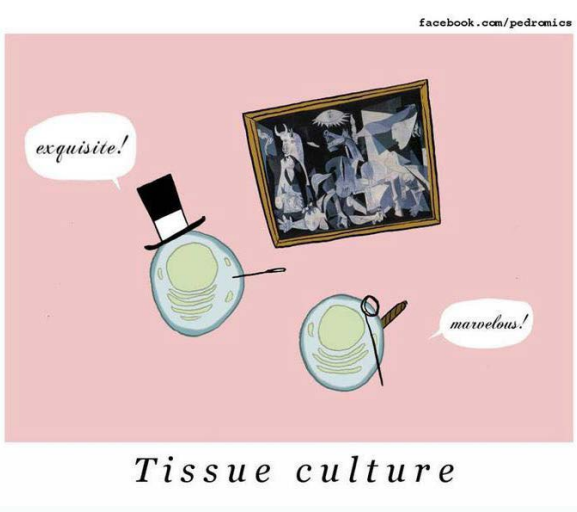
Overall, this city is great for having a holiday-feeling and you are also definitely in the right place for science. I almost forgot to mention it, but believe me or not: the weather here is definitely better than in the Netherlands! Did I already convince you to come over for your internship? I am planning to stay for a PhD here, so hopefully I can welcome you!

Lise van Wijk

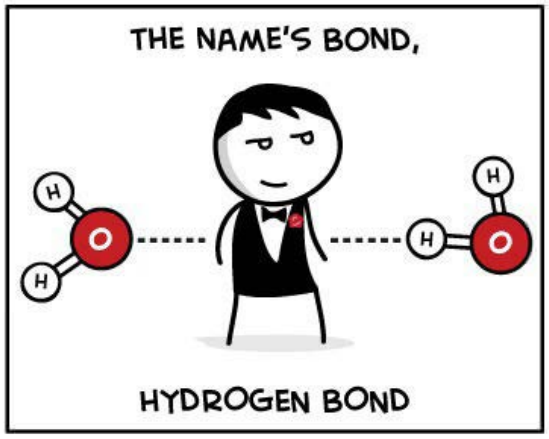
StuComics

Lab anxiety

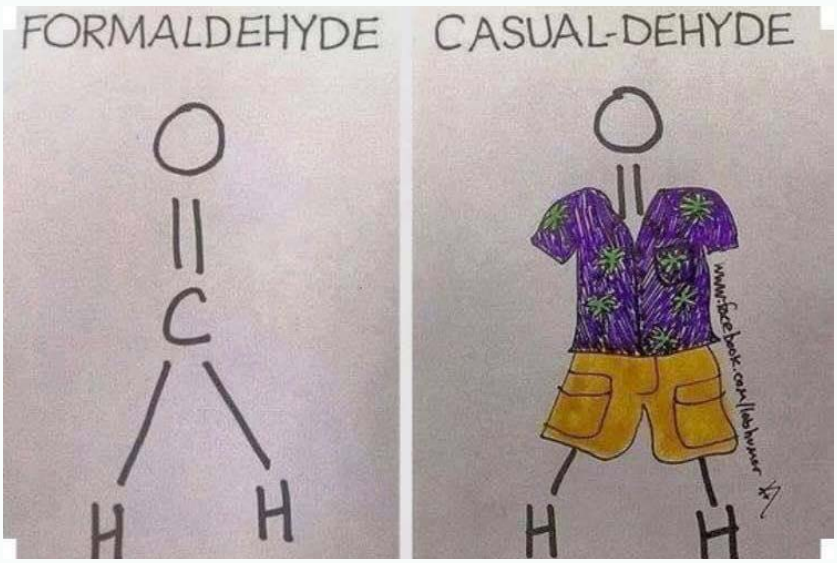
facebook.com/pedromics



Tissue culture



Beta-Mercaptoethanol
Masking lab flatulence since 1956



StuCom Event

Easter Hunt & Movie

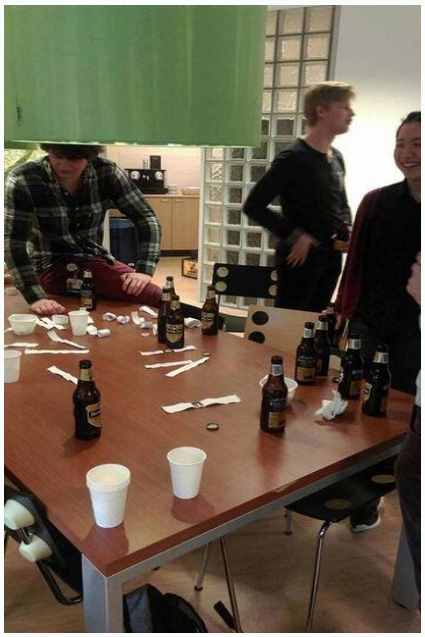
The moment finally arrived: after having kept our mouths shut for months we could finally reveal the location of the retreat! The fun activity took place on the 30th of March, in an ideal setting to announce the location. However, all StuCom members wholeheartedly agreed on not giving away the name of the city so easily, and we came up with a little, teaser game. As the Easter holidays had just come and gone, we came up with an Easter egg hunt in the Stratenum. Instead of eggs, we hid many little Easter chicks around the Stratenum coffee corner, each guarding a precious riddle or hint about the location of the retreat.

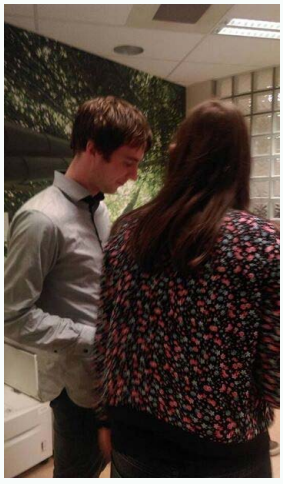
All students were divided into three groups. The group that solved the riddles the quickest could earn themselves a few Belgian special beers. Tasty! So, after giving the go-ahead, all students raged through the coffee corner as if they were 15 years younger, all knowing that a tasteful Belgian beer was at stake. After about 15 minutes, all hints were found, leaving behind a completely devastated coffee corner. Next, all hints could be opened and the students could try to guess the location of the retreat. However, almost all hints were extremely hard, if not impossible to solve. Therefore, to be able to guess the location correct, you needed many hints. One of the groups collected about half of the hints, so they were the lucky ones to guess correct: Brussels!

After the game (and pizza), we went on with the fun activity and started the movie "Errors of the Human Body", a science-based thriller and an absolute must-see for every molecular biologist. Involving themes in daily science life such as, the competition between research groups, crazy borrels with your colleagues, a tour through your new research institute with all its facilities and stealing precious mice from the competitive research group, of course. The main character gets a new position in a lab, where his handsome colleague found the gene responsible for regenerating limbs in the axolotl. But when he finds out that the competitive research group are stealing and using their data, things quickly get out of hand… Everyone really liked the movie (and the accompanying subtitles), so it was a great success!

When the movie ended, we had a few more beers and later moved to the Cambridgebar with a few people that were not saturated yet. Taken together, the activity was a success!

StuPics





Studying Abroad

Ciao CSND students!

Here I am, among the happiest people in the world, according to the World Happiness Report of 2016: Danes! Well, believe me, this is not due to the nice weather or the good food… Any Dane in our Master, right?

When I arrived in Copenhagen, at the beginning of January, as a proper Italian I was not ready to that darkness and that freezing cold. Quickly, I learnt the Scandinavian proverb: there is no bad weather, just bad clothes. Therefore I started putting on layers and layers of clothes, so that if you would have pushed me, I could have rolled like a ball. That was my first lesson here: never complain about Dutch weather, if you have never experienced Denmark!

Besides from that, there are actually many reasons why Danes are so happy and satisfied with their lives, but to make it short, let's summarize those reasons in three words: extremely high salaries. Everything seems to work perfectly here, no-one really complains about politics, and even students get a salary so that they can go to university (the same situation as in Italy!). Moreover, Danes feel safe in their cities. So safe that mothers leave their babies unattended in stroller outside bars/supermarkets/shops without any worry. Pretty awesome, right?

Apart from exploring Denmark and learning the Scandinavian culture, the reason which brought me here was to do my minor internship in the lab of Kim Jensen, at the Biotech Research and Innovation Centre (BRIC) of Copenhagen. Jensen Group's interest relies in the physiological role of somatic stem cells in tissue homeostasis as well in cancer, focusing in particular in skin and intestine. It was actually Kim Jensen to send an email to our Joost, last July, to ask if any CSND student was interested in an internship in his lab. He knew how well prepared we are. After a Skype interview, he offered me to go, and I accepted it without thinking twice. That was really a good decision. My project aims at dissecting the role of Lrig1, master regulator of stem cell proliferation, in intestinal stem cells during both homeostasis and tumorigenesis, hence using organoids culture as well as performing in vivo experiments with mice. Life in the lab is very stimulating and challenging, every day is different from the others. My supervisor followed me the first month and then she went on maternity leave, but I never felt alone in carrying on my project. I am surrounded by young, international and highly motivated people, always available for any help and open to discussions. And, for the ones of you who did not meet Kim Jensen, well he is a super cool (always smiling) PI, who manages to combine good research and fun in the lab, in an inspiring way.

I highly recommend any of you to take into consideration the BRIC Institute if you are planning to do an internship/phD abroad. Copenhagen is a vibrant and attractive capital, both scientifically and culturally speaking, with many events for all tastes. And now that spring is coming, the city is showing itself in all its beauty…and it's just amazing to live here!

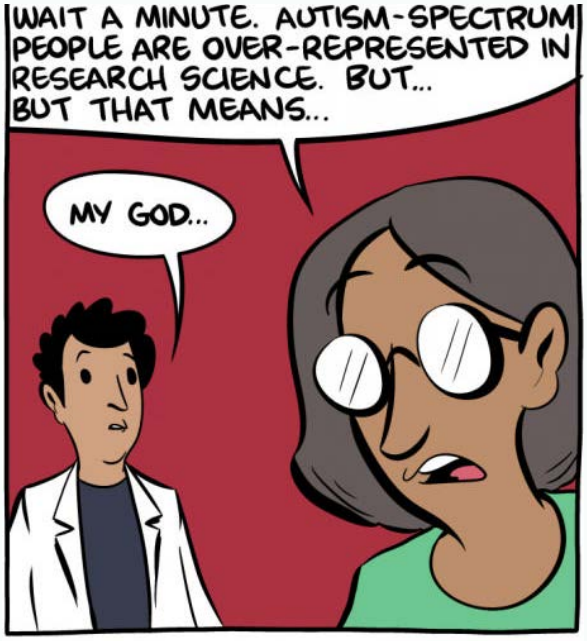
I would like to end thanking the Netherlands to have taught me how to bike properly in a crowded city (as Thijs wrote in the previous newsletter, the Oudegracht during rush hours is the best example). But still, be careful if you come working here: Copenhagers are competitive crazy bikers. Buy a helmet!

Good luck to all of you for your internships, remember not to waste any opportunity ;)

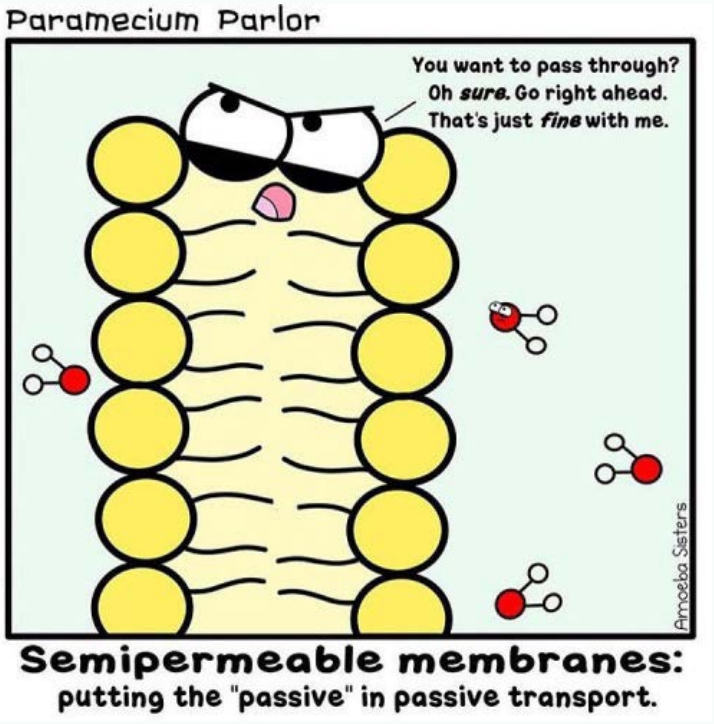
Veronica Foletto

StuPics

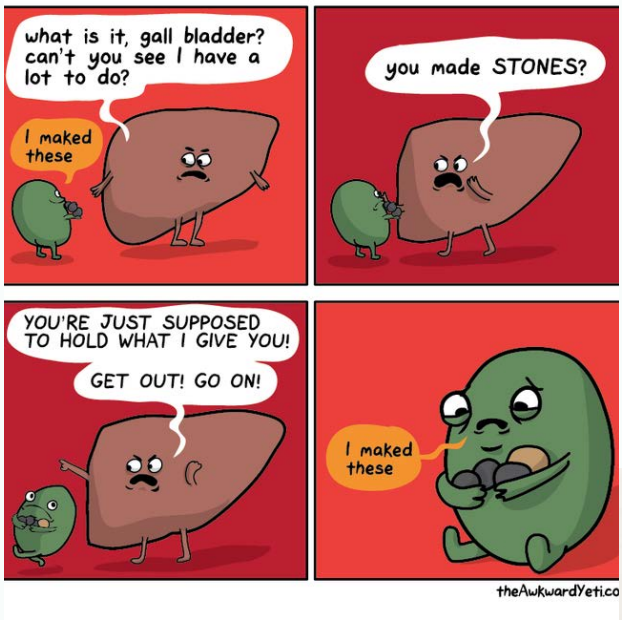
StuComics

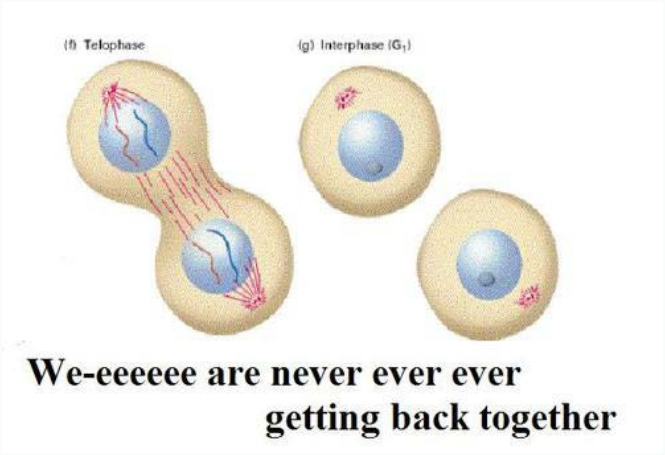


AUTISM CAUSES VACCINES.

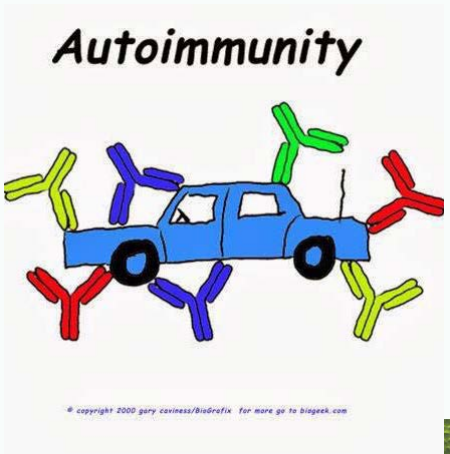


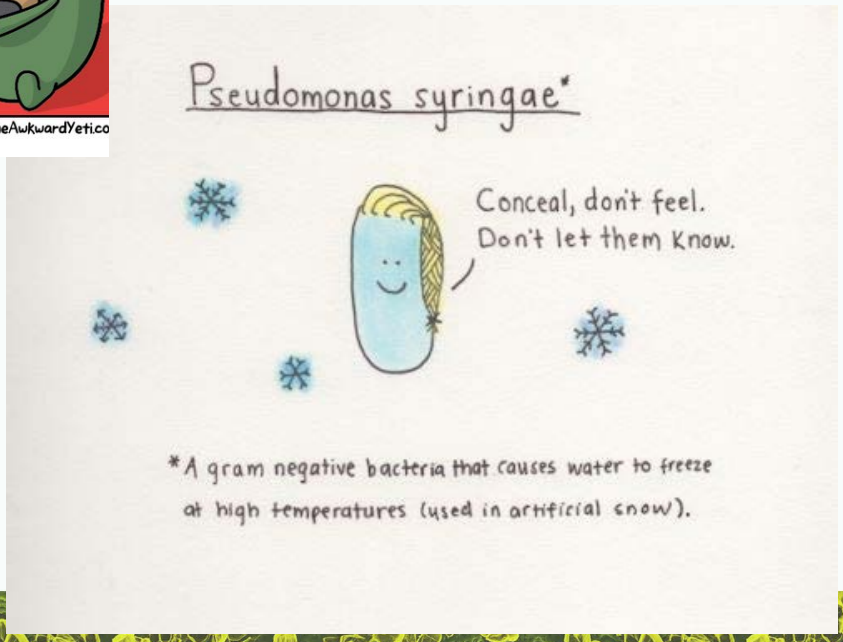
Semipermeable membranes:
putting the "passive" in passive transport.





We-eeeeee are never ever ever getting back together





Upcoming FB Events

Science Cafe - Me, My Cell & I

Date: 23rd of May
Time: 20:30-22:00
Location: Het Gegeven Paard
Costs: Free
Details: Mustafa Marghadi will talk with scientist, including prof. dr. Hans Clevers, about their fascination about cells.

Life Cycling at Utrecht Science Park

Date: 26th of May
Time: 13:00-17:00
Location: Utrecht Science Park
Costs: Free
Details: Sign up now for Life Cycling on the 26th of May! Are you interested in a career outside academia? And curious about the life sciences industry? Sign up for Life Cycling at the 26th of May. Life Cycling is organised by the Medical Biologists Association Mebiose, Utrecht Science Park (USP) and Utrecht University Career Services. The event starts with a short workshop in professional networking, after which various companies that work in the field of Life Sciences will present themselves and you will have the opportunity to ask questions.

Under The Sea International Party

Date: 1st of June
Time: 23:00-04:00
Location: Maggy Malou
Costs: presale €3, door sale €5
Details: Dive into the wonderfull world of underwater partying with AEGEE Utrecht, SIB Utrecht and ESN Utrecht on the first of June. These three international student organisations will take you down to the place where, because it's wetter, it's better (Crab Sebastian from the Little Mermaid).

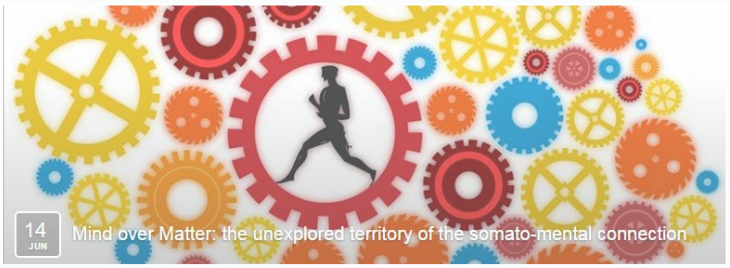
Upcoming FB Events

Hitzone Party

Date: 9th of June
Time: 23:00-04:00
Location: Club Poema
Costs: €2 for students
Details: Let's go to the beach, each! Asereje a è… 030 let's hear yourself! Vamos a la playa.

Symposium: Mind the Matter

Date: 14th of June
Time: 09:00-18:00
Location: Utrecht Science Park
Costs: Free (but you have to sign up for the masterclasses. Sign up here: http://www.summasymposium.com/programme-and-registration/)
Details: The SUMMA Symposium Committee is proud to present the SUMMA Symposium 2016: Mind over Matter, the unexplored territory of the somato-mental connection. The aim of the symposium is to engage in a multidisciplinary conversation about the body-mind connection. Both fascinating and intriguing topics will be addressed, ranging from the influence of stress on your physical health, to addiction and alternative medicine.



Up! Rooftop Party 2016!

Date: 1st of July
Time: 20:00-01:00
Location: On top of Casa Confetti
Costs: €5
Details: Roofttop party on the Casa Confetti!
5 euros entrance fee, drinks included
For inhabitants of Utrecht Science Park
Sold out last year!
Presale 2 june @ Cambridgebar 20:00-22:00, cash only

StuPics

An enthusiastic Elianne inspiring the young scientists of the future with the travelling DNA lab.

Sharon and Shah encouraging public interest in science at their SITC stand

Lukas Kapitein presenting for Science in the City.

U/Select students of 2016

Shah and Morgan braving the high tent temperatures in the name if science.

With special thanks to Joost Koedam for making the pictures!

Upcoming Activities

M.B.V. Mebiose

24th of May: Master BBQ

31th of May: Drinks

2nd of June: TEDx

7th of June: Symposium

10th of June: Weeklky Drinks XL (13:00-20:00)

16th of June: Change of Board of M.B.V. Mebiose

16th of June: Party

18th of June: Sail event

23th of June: Dancesplash (swimmingpool party)

8th-10th of July: Hitch weekend

For other activitiesa and information please visit the website (http://mebiose.nl/).

U.B.V.

27th of May: Festival For Ocean Awareness

1st of June: High Tea

1st of June: Open Stage

2nd of June: Wine tasting

3th of June: Drinks

9th of June: UBV-party

10th-12th of June: Sail weekend

16th of June: Drinks

23th of June: Dancesplash (swimmingpool party)

For other activitiesa and information please visit the website (http://ubv.info/).

Retreat - Programme

Wednesday 8th June 2016

7:30-8:00	Gather at Uithof & get on bus
8:00-10:00	Drive to Janssen & Janssen
10:00-13:00	Tour Janssen & Janssen
13:00-14:00	Lunch at Janssen & Janssen
14:00-15:30	Drive to hostel Brussel
15:30-16:30	Settle in hostel
16:30-18:00	Student presentations: Céline, Merlijn & Pieter
18:00-19:00	Dinner at hostel
19:00-21:00	Poster presentations
21:00	Free time

Thursday 9th June 2016

7:30-8:30	Breakfast & getting ready at hostel
8:30-8:45	Gather & get in bus
8:45-9:30	Drive to IRIBHM
9:30-12:00	Talks at IRIBHM
12:00-12:30	Bus to de Duve
12:30-13:30	Lunch at de Duve
13:30-16:30	Talks at de Duve
16:30-18:00	Drinks at de Duve
18:00-18:30	Drive back to hostel
18:30-19:00	Refresh at hostel
19:00-21:30	BBQ
21:30	Free time

Friday 10th June 2016

8:00-9:00	Breakfast at hostel
9:00-10:00	Pack and load stuff onto the bus
10:00-10:30	Walk to fun activity
10:30-16:30	Fun activity & free time
16:30-18:00	Dinner reservations in Brussels
18:30-19:00	Gather at bus
19:00-20:30/21:00	Drive and arrive home

Retreat – Institutes

Janssen & Janssen

Janssen Pharmaceuticals

Janssen Pharmaceuticals was founded in Belgium in 1953 by Dr. Paul Janssen. Dr. Paul, as he was known throughout the global scientific community, was an exceptionally gifted and passionate scientist who revolutionized modern medicine and inspired a new generation of researchers.

Quickly Janssen was acquired by Johnson & Johnson in 1961 and remained part of their company. However, Janssen still focused on research to develop drugs for diseases where no treatment is available. As such, eight medicines of Janssen pharmaceuticals are on the WHO list of essential medicines, and on the research facilities of Janssen thousands of researchers are working every day to find better therapeutics for the future.

Research campus Beerse : In 1957 the research campus of Janssen was built, which quickly grew out as an international campus, at which now 1800 researchers from various nationalities search for new drugs. The research campus of Janssen is focusing on three core areas: Neuroscience, Oncology and infectious diseases.

Janssen Research Campus Beerse (below)-

Retreat - Institutes

IRIBHM
Institut de Recherche Interdisciplinaire en Biologie Humaine et Moléculaire

The IRIHBM is part of the Medical Faculty of the Free University of Brussels (Université libre de Bruxelles). Next to a catchy name, it boasts a multitude of research groups totalling 150 people. The institute was founded with the aim to apply an interdisciplinary approach to the study of endocrinology and, in particular, the pathophysiology of the thyroid gland. Over the years this focus has broadened and now includes stem cells, developmental biology and cancer.

During our visit, we will attend talks from members of the following groups:

Blainpain group

Cedric Blanpain is a successful and widely known researcher in the field of stem cell regulation. His studies the physiological process that maintains a constant number of cells in renewing organs is called tissue homeostasis. Stem cells located in these organs are responsible for the maintenance of tissue homeostasis during physiological condition and tissue repair following injuries. A better understanding of the mechanisms regulating stem cell function will have an important impact into the understanding and treatment of many pathological conditions such as cancer, degenerative diseases or ageing.

For more information, check out their website: http://blanpainlab.ulb.ac.be/index.htm

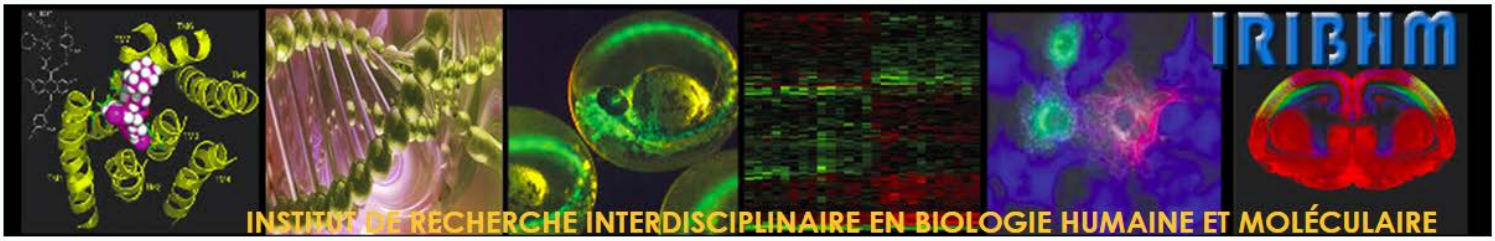
Costagliola group

Sabine Costagliola is a well-established researcher who focusses on thyroid organogenesis. She and her group work on the molecular dissection of the signalling mechanisms that control morphogenetic processes and gene networks involved in this phenomenon.
To date, the signalling mechanisms that control the specification of endoderm-derived organs such as the thyroid, lung, liver or pancreas remain poorly understood. To tackle the question how different cell types are specified from the gut endoderm, they use the thyroid as an experimental model.

For more information, check out their website: http://costalab.ulb.ac.be/Home.html

Wittamer group

Valérie Wittamer is a young PI who recently started her own group at the IRIBHM. Her research focus combines immunology and development in zebrafish.



Retreat - Institutes

de Duve Institute

'My curiosity got the better of me, and as a result I never elucidated the mechanism of action of insulin. I pursued my accidental finding instead.'

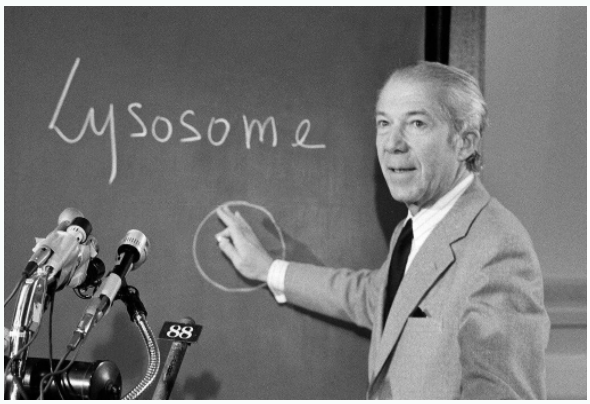
In the run-up to winning the Nobel Prize in Medicine or Physiology in 1974 Christian de Duve decorated his academic career with dedication and additional highly esteemed awards. His master's thesis, a 400-page book entitled "Glucose, Insuline et Diabète", earned the highest university degree, "Agrégé de l'Enseignement Supérieur", paving the way for invaluable fundamental research. de Duve credited his past mentors and Nobel laureates, such as Hugo Theorell and Carl and Gerty Cori, for being 'sticklers for technical excellence and intellectual rigour' which he believed is a major attribute in scientific research.

The basic research by which de Duve pursued led him to the serendipitous discovery of the lysosome and peroxisome and the development of well-known definitions such as autophagy and endocytosis. It was within this vein that de Duve was acknowledged for his discovery concerning the structural and functional organization of the cell.

Within the same year of receiving the Nobel Prize, de Duve founded the International Institute of Cellular and Molecular Pathology (ICP), which was later renamed 'de Duve Institute'. His legacy lives on through his words: **'To overcome disease one must first understand it'. - Christian de Duve**

Since then de Duve institute has established itself through basic research. Taking advantage of multidisciplinary collaborations with particular focus on medical benefits from basic discoveries. Research groups affiliated with de Duve highlight areas of research in tumor immunology, signalling in cancer cells, stem cells and much more.

We are fortunate enough to be invited to the de Duve institute during our retreat to attend talks that have been kindly tailored to the diverse approach of our master's degree. Below is a brief overview of what is to be expected from some of the eminent figures echoing de Duve's lasting memory.



Retreat – Institutes

de Duve

Frédéric Lemaigre – 'From development to cancer in the pancreas'

'Like the liver, the pancreas develops as an outgrowth of the endoderm. Pancreatic progenitors derived from the endoderm form two buds (dorsal and ventral) which later fuse to form a single organ. Within these buds the progenitor cells give rise, through a stepwise process, to endocrine, acinar and duct cells. Our group investigates the molecular mechanisms that control development of the various pancreatic cell types, and the maintenance of the differentiated phenotype in adults.'

Pancreatic cell differentiation: https://www.deduveinstitute.be/lpad

Nicolas van Baren – 'Cancer immunotherapy'

'Cancer cells express tumor-specific antigens that can be targeted by cytolytic T lymphocytes (CTL). These antigens are small peptides derived from endogenous proteins presented at the surface of tumor cells by HLA molecules. Our group has developed small scale clinical immunotherapy trials in which patients with advanced cancer, often metastatic melanoma, have been treated repeatedly with a vaccine containing one or several defined tumor antigens that are expressed by their tumor.'

https://www.deduveinstitute.be/melanoma-immune-environment

Jean-Baptiste Demoulin – "PDGF receptors in human diseases", presented by Florence Arts

'The Demoulin laboratory analyzes how signaling cascades activated by receptor-tyrosine kinases affect transcription factors and gene expression, using techniques such as microarrays, sequencing, classical molecular biology and bioinformatics. Regulation of transcription factors, such as FOXO and SREBP, by the phosphatidylinositol 3-kinase pathway is particularly studied in the context of cell growth.'

https://www.deduveinstitute.be/research/bloedkanker-signaaltransductie-kankercellen/jean-baptiste-demoulin

Retreat - Free time

Royal Belgian Institute of Natural Sciences

One of the possibilities for the fun activity on Friday during the retreat will be a visit to the Natural Sciences museum in Brussels. The Museum galleries only display a fraction of their huge collection of their 37 million specimens. That makes them one of the ten most important natural history collections in the world, as well as the largest in Europe after Paris and London. Treasures such as the Bernissart Iguanodons, the Spy Neanderthals, the Dautzenberg shell collection, the four fragments of moon rock, the thylacine (Tasmanian wolf), and Baron De Selys Longchamps' insect collections are unique in the world. These collections, which are the result of many decades of exploration and research, help us to better understand the history of life on Earth and biodiversity, and to come up with better ways of protecting the environment.

The collections can be roughly divided up into six categories: entomology, recent invertebrates, recent vertebrates, anthropology,palaeontology and geology. To find out more about the permanent exhibitions, you can visit the website https://www.naturalsciences.be/en/museum/permanent-exhibits and get excited already!

Besides the permanent exhibitions, the museum also has a temporary exhibition during our time in Brussels, called "Wonders of Wildlife". In this exhibition, the spectacular panoramas highlight a range of topics including animal behaviour, biomechanics and species and landscape conservation, through videos, objects, and interactive activities set into detailed displays. Through amazing freeze frames you can get up close and personal with sights you might have previously only seen in nature documentaries on TV. Whether running, jumping or hunting, movement in nature is often powerful, precise, and wild. In this exhibition, a herd of ibexes leap from rock to rock; two rival males confront each other; a wolf chases wild boar; a tiger runs majestically and lions hunt fleeing zebras. These acrobatic installations are more than just specimens; they are works of art made by taxidermists. Taxidermy is a unique field that requires the knowledge and precision of a scientist with creativity and an artist's eye for detail.

The Stucom is very enthusiastic about visiting the museum and we hope that you are aswell!

Retreat – Free time

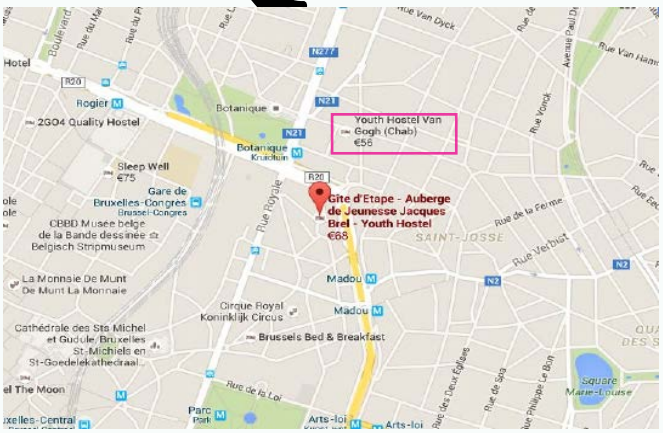
Choco-story – The chocolate experience in Brussels

104 years ago Jean Neuhaus invented the source of happiness for so many people today. His clever idea was to make a chocolate-filled sweet, starting the life of the 'praline'. From then on Brussels remained the centre for chocolate and pralines, coupling the name directly to the loved sweets. This raises the current question; What would be the most Brussels thing to do when visiting the city? Of course! Learning about chocolate and tasting chocolate in the official chocolate museum in the city centre of Brussels. Learning about the history of chocolate, watching a master chocolate-maker prepare them right in front of you and more. Information about the whole process of making and tasting different kinds of pralines are of course all part of the experience. You are free to wonder around the different exhibition rooms and experience chocolate like you haven't done before. While it will not be a full morning filling program, it will definitely be a nice experience for everyone who is interested or a fan of the dark gold. Sign up for this museum if you want a quick, interesting and tasty morning.
(Extra tip, the smell and taste of chocolate has been indicated to be very helpful against hangovers!

1. Choco, Late. The hangover helping effect of chocolate as studied by one short questionnaire to the author. Nature Unsupported Opinions. 1, 1–1 (2016).

Well, well! Throw me into the nearest pastry bag and sign me up for the next tour!

Retreat - Contact



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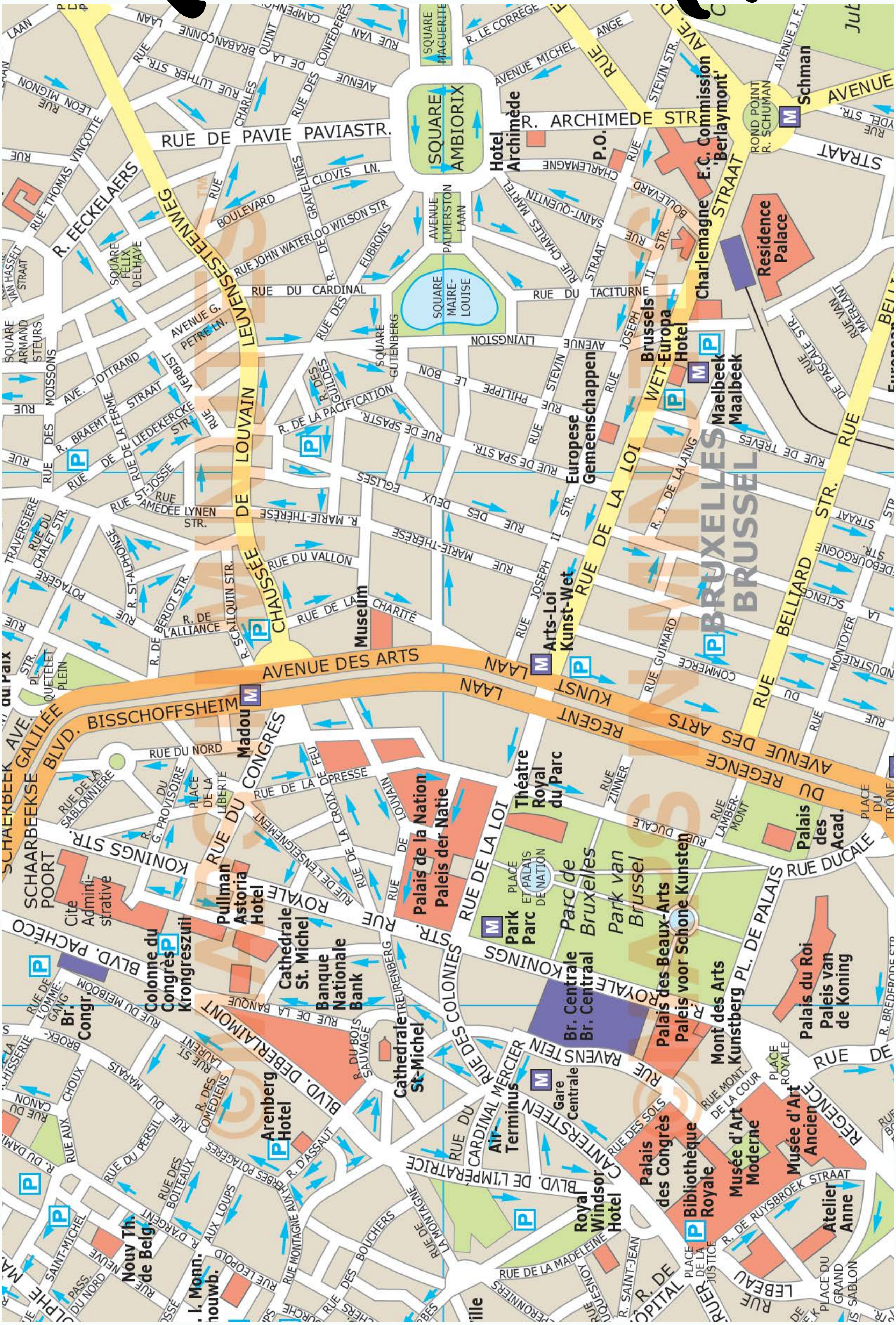
Retreat - Map



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AVENUE LIVINGSTON
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Maelbeek Maalbeek
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RUE DE LA LOI WET
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BRUXELLES BRUSSEL
Arts-Loi Kunst-Wet
Museum
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