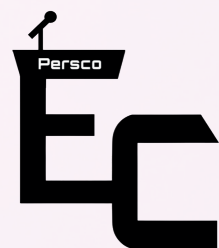




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Sexually Transmitted Diseases



G.F.S.V. "Pharmaciae Sacrum" - Study Pharmacy
Volume 37 - Issue 3 - March 2022



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Editorial



Dear reader,

Even today there seems to be some sort of a stigma on talking about sexually transmitted diseases (STDs). We as a committee chose to highlight this theme as we think it is essential to give more attention to it. Having an STD can go unnoticed, while it can have very unpleasant consequences. It is important to prevent the spreading of STDs and be aware of the harm such an infection can give.

We made a summary of an interview given by Nicole Dukers for “Medisch Contact” for our scientific article. In this interview, Ms. Dukers talks about controlling Chlamydia trachomatis in different parts of the body and the best possible treatment option for this disease. Besides, we asked some questions to a practical teacher, Eduard Post, about his life and his work experiences.

In this issue, you can also read about the PhD of Hans Kroes. Richard Lantink shows us what entails working in (a certain branch of) the pharmaceutical industry. Also, a Pharmacy student from Croatia talks about the life of a Pharmacy student over there. Lastly, Lisa Wibier, the KNMP Student Price winner, gives an insight into her journey to become a pharmacist.

We hope you all enjoyed the Lustrum activities in February and I hope you enjoy reading!

Love,
On behalf of the Editorial Committee 2021-2022 “PersCo”,

Sharon Koers
h.t. praeses

Board



Dear reader,

We are already in the year 2022 and our board year flies by. The candidate board has already been revealed, but there are still a lot of moments to look forward to in our last months. For example, the Foreign Trip will take place in the next month. In the past few months, we enjoyed a lot of special moments. The 28th Lustrum was filled with a broad spectrum of activities, which already created memories I will never forget. During April, the Lustrum will be closed off with a stunning reception and a gala (dinner).

The Editorial Committee has chosen ‘sexually transmitted diseases’ (STDs) as the theme of their third edition. A theme that may be uncomfortable for some students to talk about, but very relevant. STDs sometimes only cause mild symptoms, but there are also STDs which can cause serious, long-term health damage. Therefore, prevention of STDs is very important. Clear information can help a lot in preventing STDs. I am curious to read how the committee has filled in this interesting theme.

At last, I want to thank the Editorial Committee “Persco” again for their efforts to realise this magazine. I want to wish you a lot of reading pleasure and I am looking forward to meet you at one of our coming activities.

With kind regards,
on behalf of the 140th board of G.F.S.V.
“Pharmaciae Sacrum”,

Sybrand Zielhuis
h.t. praeses



Scientific Article

Effective control of chlamydia infection requires a different approach

An interview given by Nicole Dukers for Medisch Contact

Chlamydia trachomatis

Chlamydia is difficult to treat. This is because once *Chlamydia trachomatis* is in the anal area, it is difficult to control. Many medications do not tackle the bacteria well in the entire body, except for doxycycline. Doxycycline, however, does not contribute to a reduction in prevalence at the population level.

In the Netherlands, patients with chlamydia are mainly treated by general practitioners, doctors and nurses at the sexual health centers of the GGD. This is important because, in women, every 1000 infections with chlamydia lead to 171 known infections, 5 cases of infertility and 2 ectopic pregnancies.

Prevalence

The prevalence of chlamydia in the entire female population is 3-4%. However, in people that quantify for a STD test this number is around 15-18%. When the test shows a positive result for chlamydia, the patient will either get a one-time treatment with azithromycin (first-choice) or an one-week treatment of doxycycline (second-choice). "The treatment consists of more than just an antibiotic. We look at the whole patient and his sexual health.

For example, we provide information about condom use and advise partner warning", emphasizes Nicole Dukers, infectious disease epidemiologist at the GGD South Limburg. Dukers coordinated the FemCure study on preventing chlamydia in women. During the last decade, it was discovered that *Chlamydia trachomatis* does not only occur in the vagina but also in the anus. "That anal infection becomes usually unnoticed, because we do not test women close to the anus as standard treatment procedure", says Dukers. "Because the anal infection is common, we wanted more insight into the causes and the course of this infection."

*In women,
every 1000 infections
with chlamydia lead to
171 known infections
with 5 cases of
infertility and 2 ectopic
pregnancies.*

Clearance

For this study, 560 women participated. Rectal, vaginal and oral samples were taken and their behavior was measured in a time period of 12 weeks. A FemCure study showed that in some cases *Chlamydia trachomatis* sometimes disappears spontaneously. Dukers: "Before starting the treatment, we took another test with the infected women in which 6% of these women had the bacteria cleared spontaneously. And in women who had a single vaginal infection (not also anal or oral), the spontaneous clearance is as much as 32%." Indicating that the immune system can fight these bacteria to some extent. Doxycycline proved to be effective in the body, oral, vaginal and anal. The study also showed that treatment with azithromycin did not necessarily clear anal infection. Researchers wondered if the insufficiently treated anal infection could lead to vaginal infection. Results showed an indeed increase in vaginal infection due to anal infection. "Our study is the first to show that self-contamination may play an important role when contracting a chlamydia infection in a previously treated woman. This is also very difficult to prove this hard with using observational research, but these are very strong indications in that direction."

The study also looked at the oral infection of chlamydia. This only occurs in 1-3% of women. In 20%, the infection cleared itself. Usually, oral infection does not have any symptoms.

Future

The Dutch research led to change in different countries. In the US and UK doxycycline is now the first in line for chlamydia treatment. The fear of resistance against azithromycin played a role in the decision. In the Netherlands, however, the guideline now is revision. It is not clear if doxycycline will become the first choice of treatment.

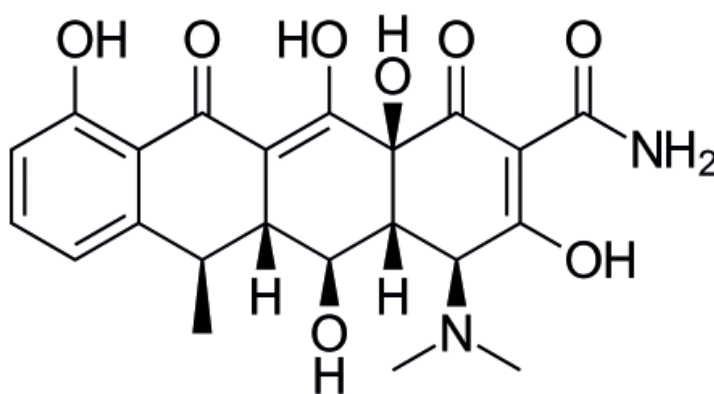
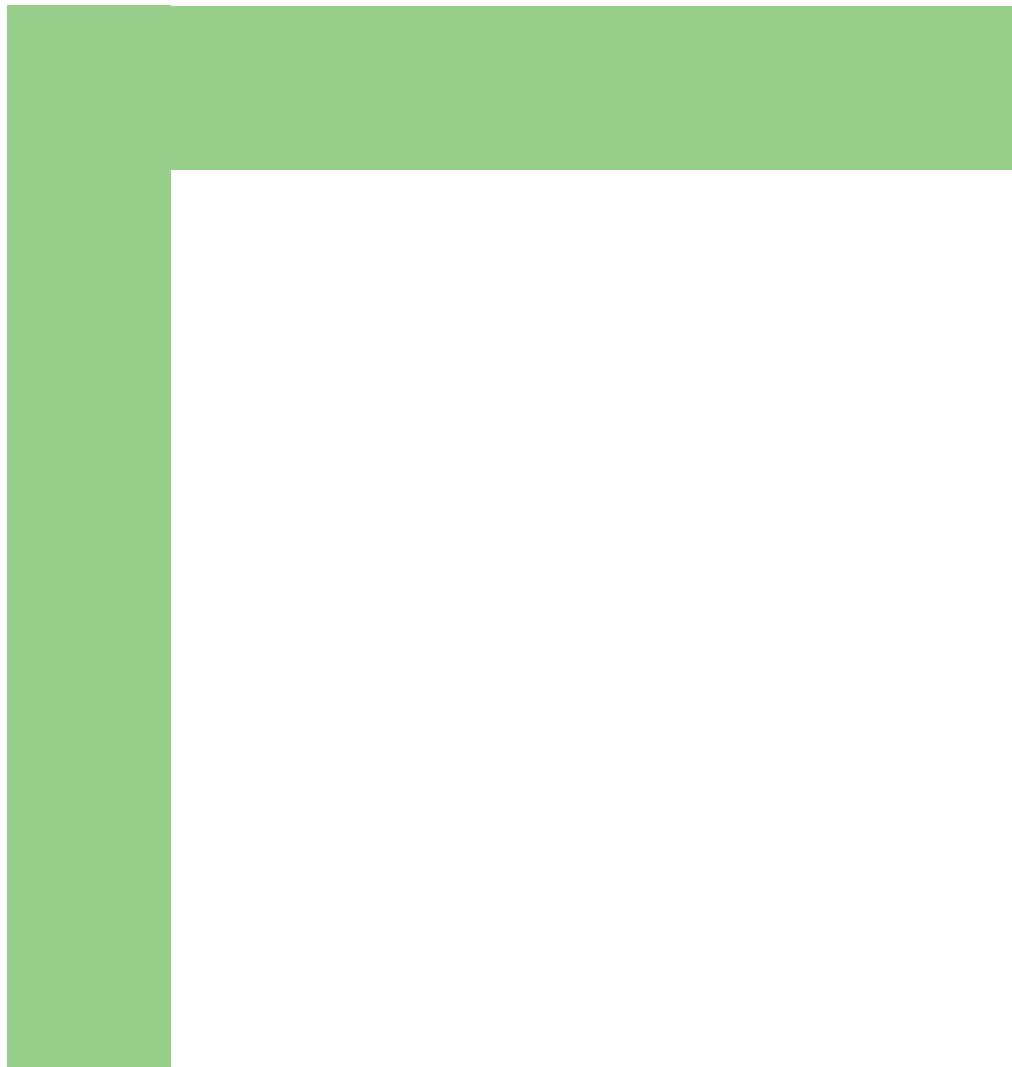


Fig. 1: chemical structure of doxycycline

The question is if the inadequate recognition and treatment of the anal infection could play a role in the maintenance of the Chlamydia trachomatis infection in the whole population. The FemCure researchers collaborated with the RIVM to calculate the influence of doxycycline on population level. “There is just a slight improvement”, states Dukers. Dukers is not confident that the modeled improvement is actually going to occur. “Test-and-treat works well for HIV but there are disadvantages when it comes to testing at population level. The main disadvantage is overtreatment of people who can spontaneously clear the infection.”

The future of battling chlamydia, according to the epidemiologist, is not with mass testing, but stays focused on testing the people that meet the diagnostic criteria. “The focus of testing does not lie on reducing the infection on population level, but tracking women that have a high risk of complications as a result of the infection. Treating them, which means doing more than just prescribing antibiotics, could take away that risk.”



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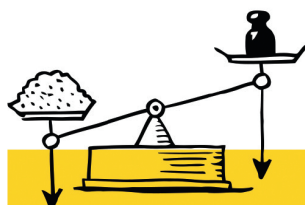
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aanraden om hier een stage
te volgen.”

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enthousiasme van alle
betrokkenen bij de Wolk
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gemotiveerd om alles uit
je stage te halen.”

Maarten – “Binnen Wolk
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openbaar apotheek De Drie
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waardoor het gemakkelijk is
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PhD student

Hans Kroes

Hans Kroes is a pharmacist in the Medical Centre Leeuwarden. He is currently performing a PhD trajectory at the Rijksuniversiteit Groningen under supervision of hospital pharmacists Eric van Roon and Sander Zielhuis and pulmonologist Anneke ten Brinke. His PhD focuses on the application of biologics in the treatment of severe asthma. In this article, he describes the clinical field of his PhD project and highlights a few of his studies. Lastly, he explains his experiences with performing a PhD trajectory.

Severe asthma

Severe asthma is a debilitating form of asthma, which is characterized by recurrent, possibly life-threatening, exacerbations. Patients with severe asthma often require oral corticosteroids (OCS) in addition to optimal inhaler treatment to control their disease. The use of OCS is associated with serious side effects (adrenal insufficiency, weight gain, depression), but has been the only treatment option for severe asthma for many years.

This changed with the recent approval of the new biologics for severe asthma. These monoclonal antibodies have shown to reduce the use of OCS and the number of exacerbations. Furthermore, the biologics greatly improve the quality of life for severe asthma patients. Currently, five biologics are approved for severe asthma (omalizumab, mepolizumab, reslizumab, benralizumab and dupilumab).

While extremely effective in most patients, not all patients respond equally well to biological treatment. Due to the extreme disease burden of severe asthma and the high costs of biological treatment (mately €15.000,- per patient per year),

optimal application of these biologics is paramount. This leads to the need for adequate prediction of response and evaluation of the treatment. Furthermore, since the biologics are relatively new, real-world efficacy data is currently lacking.

Registries

In light of these challenges, the Registry of Adult Patients with Severe Asthma for Optimal Disease management (RAPSODI) was founded. This Dutch, nationwide registry for severe asthma patients treated with biologics collects yearly follow-up moments in addition to three-monthly questionnaires filled in by the patients. There are currently 21 hospitals part of RAPSODI, involving more than 1000 patients.

Like the Netherlands, several European countries have their own nationwide registries. The European Respiratory Society founded the Severe Heterogeneous Asthma Registry, Patient-centered (SHARP) consortium. This workgroup works towards connecting these nation-wide registries using a federated analysis platform, combining data from thousands of patients across Europe in a privacy proof way.

This is where I step in. The Medical Centre Leeuwarden has a severe asthma clinic, contributing to both RAPSODI and SHARP. This allows me to be involved in several nationwide and international studies. The main subject of my PhD project is the optimal application of biological treatment for severe asthma.

Prediction of response

As part of my PhD project, we focus on the prediction of response to biologics. We published a review article, recognizing the need for prediction of response to the biologics using real-world data. In a small single centre study, we found that all patients with a certain questionnaire score 8 weeks after initiating mepolizumab treatment, were responders after 1 year. This encouraged us to study this phenomenon in a larger population. Using the RAPSODI registry, we included 220 patients receiving benralizumab treatment and studied whether baseline characteristics, combined with questionnaires at 3 months, predict outcomes after 1 year. We are currently analyzing the data, but the preliminary results are very promising, possibly providing guidelines for therapy evaluation after 3 months, expediting the evaluation moment and leading to a reduction in healthcare costs.

Real-world studies

We also focus on large, real-world studies. An example is the manuscript we are currently attempting to publish. In this research, we studied the real-world reduction of OCS when starting biological treatment. Instead of the commonly used outcome daily maintenance OCS dose, we calculated the cumulative OCS dose, which is more associated with OCS-related side effects. We performed this study by retrieving pharmacy dispensing data 2 years before and 2 years after anti-IL-5 (mepolizumab, reslizumab or benralizumab) initiation from almost 400 patients, providing new insights into the efficacy of these biologics. I had tremendous help in the form of the current P.S. praeses, Sybrand Zielhuis.

Another study aims to combine data from thousands of European mepolizumab patients within the SHARP consortium. This study is the first study using the SHARP federated analysis platform.

The cooperation with several international stakeholders and the complicated technical side of combining several registries is something I never expected to learn during my PhD project.

Patient-tailored approaches

Lastly, a major theme of my PhD thesis is the exploration of patient-tailored approaches. We studied the applicability of therapeutic drug monitoring by measuring omalizumab serum levels and patient-reported need for the next administration. A finding in this study was that a large proportion of our patients reported that they “felt” that they need the next administration of omalizumab towards the end of their dose interval. This study led to our craving-study, exploring the never-before described phenomenon of patient-reported need for the next administration. This study is currently ongoing and partly being performed by Lotte van Hal, a master student Pharmacy.

Performing a PhD

While some studies are still ongoing, I am currently working towards finishing my PhD projects. The position of the Medical Centre Leeuwarden as a major severe asthma clinic provided me with the opportunity to work with key opinion makers, both national as international, local clinicians, respiratory nurses, colleagues, Pharmacy students and most important of all: patients. The “people-side” and the opportunity to learn something new every day is something I most enjoy about my PhD. I can recommend doing a PhD project to every new pharmacist after finishing his or her study.





Alumnus

Richard Lantink

Already ten years ago, I started the study Pharmacy. After seven fantastic years, I graduated and was ready to put all things learned into practice. Luckily, I knew pretty quickly in which sector I would like to work. After the bachelor, I took a seat in the board of Pharmaciae Sacrum. During this year, I came in contact with many (pharmaceutical) companies. This brought me, along with my personal interest in science and engineering, in contact with the pharmaceutical industry. Later I joined the department of Pharmaceutical Technology and Biopharmacy for my Master project to work on dry powder inhalers. During this project, I discovered the applicability of science and engineering in healthcare. Something I found very interesting and different from courses about pharmacotherapy and patient care. However, my internships in the pharmaceutical industry really convinced me that I wanted to work in the industry.

After my graduation, I started my career as a Compounding Pharmacist at Fagron in Hoogeveen. This site is specialized in compounding personalized medicines. A very interesting and valuable sector in the pharmaceutical industry since most medicines are only available in standardized dosages and dosage forms. My role as a compounding pharmacist was mainly to release the pharmaceutical preparations, assess new compounding applications and maintain product dossiers and GMP standards. During my period at Fagron, I learned a lot on both professional and personal levels. The big difference with being a student is that from the moment you are graduated, you are considered the expert. Even when you don't have a lot of experience at all. In the master's program of Pharmacy, students are mainly trained as public pharmacists or hospital pharmacists. There is only one way to gain experience in the industry and that is to just do it. Luckily, there are plenty of training courses available and pharmacists are broadly trained, so you learn fast.

Courses like Pharmaceutical Analysis and (in)Organic Chemistry were in the end really helpful to understand the language of laboratory technicians and R&D scientists. Who would have ever thought that these courses come in handy? At the same time, courses like Pharmacotherapy and Toxicology have certainly not been in vain. The focus should always be on the patient.

After approximately one year, I became more interested in working for a larger scale, internationally focused, GMP manufacturing site and I switched to the Ofichem Group in Ter Apel. A company with which I was already familiar because I had done my last internship there. The Ofichem Group is specialized in Active Pharmaceutical Ingredients (APIs), the active substance of medicines. Laboratorium Ofichem manufactures and develops APIs for both large and small companies worldwide. Ofipharma analyses, sources and distributes human APIs. Ofichem is specialized in trading veterinary APIs. The Ofichem Group is one of the last Dutch companies that manufacture APIs.

The majority of APIs are nowadays manufactured in Asia.

The APIs are manufactured in accordance with the Good Manufacturing Practice (GMP) regulations. These regulations describe the minimum standards that medicines manufacturers must meet in their production processes to guarantee high quality and safe products. It is therefore essential that all GMP requirements are implemented adequately in the quality culture of the company.

At the Ofichem Group, I started as a Quality Assurance Officer at the quality department, a role you will often encounter in the industry. The quality department is responsible for maintaining the quality system and eventually the release of manufactured batches. The quality system covers all processes from the receipt of incoming materials to the shipment of the product. All processes are described in procedures, protocols, reports et cetera, which describe how all activities should be performed to produce safe and high quality products. When a process did however not go according to plan, this could potentially affect the product quality. It is the task of the quality department to assess whether there is an impact or not. I believe that this is the most interesting part of working in the quality department. You are in the lead to investigate why the process failed to meet its specifications, to come up with a plan to correct the issue and to determine actions to prevent reoccurrence. In the end, the final responsibility for product disposition lies with the quality department.

Currently, I am in the position of QA / RA Project Manager. I am mainly concentrating on the development of new APIs. I am doing this in close collaboration with the Research and Development (R&D) department. R&D takes care of the technical development of organic chemistry and analytical methods. My task is eventually to make sure that the product and relating procedures meet the GMP quality requirements and to receive approval from the regulatory authorities to manufacture the product. Before any new

API can be marketed and used in drug products, like tablets, capsules, injections et cetera, all information about the manufacturing of the API needs to be included in the registration dossier of the drug product. This information needs to be approved by the authorities, for example, the Dutch Medicines Evaluation Board (CBG-MEB) or the U.S. Food and Drug Administration (FDA).

This requires close collaboration with all internal departments and lots of communication with suppliers, customers and authorities from all over the world. A good understanding of the legislation is key. It is very interesting and challenging to have discussions with health care inspectors, customers and authorities about the design of the manufacturing processes you have developed with the whole team.

Working in a quality function is only one of the many options in the pharmaceutical industry. There are plenty of other interesting sectors like quality control, clinical research, sales, production, health economics and many more. Above all, it is most important that you enjoy going to work, have fun with colleagues and that you learn something new every day!





Student abroad

Hana Ban

My name is Hana Ban and I am a third-year Pharmacy student at the University of Zagreb. Other than my studies, I am also a Liaison Secretary for the European Pharmacy Student's Association in our local Association CPSA. Today I will take you on a tour through the life of a Pharmacy student in Croatia. So, let us dive in!

Educational System

To begin with, I will introduce you to the Croatian educational system. We begin our education with 8 years in primary school. These 8 years are mandatory for all children. Afterwards, we move on to high school where we get to choose between a vocational school (for cooks, mechanics etc.) or a gymnasium school. The next step is to choose a university, if you want to attend one. There is a Pharmacy course at the University of Zagreb and Split. Choosing Zagreb was obvious for me since I was born and raised here. Pharmacy in Zagreb is a 5-year integrated programme after which you are awarded a master's degree. With this degree, you can either start working in a pharmacy or pharmaceutical industry, or carry on with a PhD course. These 5 years mainly consist of theoretical courses but we also have three practical courses in a pharmacy. These theoretical courses include Microbiology, Pharmacology, Physiology, Pharmaceutical Chemistry and many more. In each course, we have lectures, which are not always obligatory, plus we spend a week or two in a lab. Studying Pharmacy is hard – many consider it the most difficult degree after medicine.

Apart from regular studies, our local Association CPSA provides other opportunities for students to fulfil their interests and skills.

CPSA

Croatian Pharmacy and Medical Biochemistry Students' Association offers a step back from studying while still providing students with meaningful content. Students can learn more about what they can do after university. There are many skills to be obtained by attending different competitions, such as Marketing Skills Competition or Patient Counselling Competition. "Soft skills month" is a project we started last year but has proved to be a great success. It is our aim to teach students skills that are not taught as a part of our Pharmacy studies. Some of them are leadership skills, giving feedback and suchlike. Many social programmes are held as well, where students just get to hang out with each other or with other students from all over Europe. The most famous event we hold is our National Congress, which lasts for 3 days and combines both educational and social programmes. It is the event we are most proud of as well.

Student Life

Many students come from different parts of Croatia and it is common for them to live in student dormitories. Therefore, this is where most parties take place and it is common for students to gather unexpectedly in their dorm rooms. Most clubs in Zagreb are student oriented. Therefore, there is a special weekday when students get a discount. That day is the most popular day of the week and we call it "Student Wednesday". Most people form friend groups with the people from their lab groups at the beginning of year one. Not only do they exchange valuable materials to make their studies easier, but also go out and have fun. Thanks to CPSA I have been able to make friends with people from different years. We usually go out almost every weekend in order to forget about the stress of the week and just enjoy ourselves. Apart from going out, people also meet up to go to the cafeteria for lunch. There are many cafeterias scattered across Zagreb and across different faculties. It is also quite common in Croatia to spend our free time between lectures by sitting in a café and catching up. These little impromptu hangouts in cafés can end up lasting for several hours because we are a nation known for having too much to talk about over our cup of coffee.

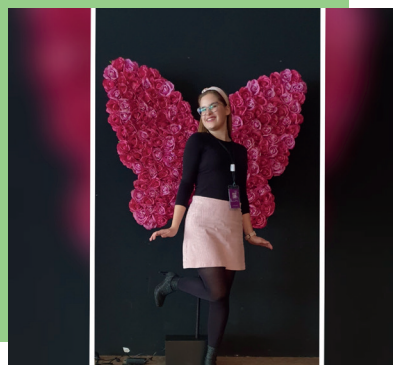
Student jobs

It is quite common for students in Croatia to find a job alongside their studies. Some of them work throughout the year but most students find work during the summer. Seeing as Croatia is a tourist country, there are a lot of student jobs to be found along the coastline which include waitressing, working in shops and so on. I have only recently been able to start a student job selling food supplements in pharmacies across Zagreb. For those of us who still live with our parents, it is a great way to save up some money to use on nights out or for travels. On the other hand, there are students who have to work to support their studies in a different city since they live far away from home. If we can find a student job that is somehow related to our degree,

it is brilliant to take it and use the opportunity to fill up our resumes along the way, which is also a great motivation for some.

There is much more to be said about both the Pharmacy faculty. Not to mention the beauties of Croatia. If you ever decide to visit us, be it for academic reasons or simply a vacation, or you want to find out more, we are always here to take you on a tour. Who knows, maybe one day we will be the ones spending a whole afternoon drinking coffee and chatting away!

"Most people form friend groups with the people from their lab groups at the beginning of year one."





Questions to...

Eduard Post

My name is Eduard Post and since 2007, I have been doing research for the research group “Nanomedicine and Drug Targeting” at the University of Groningen under the supervision of Prof. dr. Klaas Poelstra. From 2019 until now, many students could know me as a practical teacher for the courses Pharmaceutical Analysis, Instrumental Analysis, Metabolism & Toxicology and Pharmacokinetics; all are courses within the bachelor Pharmacy.

What was your dream job when you were in high school?

After high school, I started with the new study Biotechnology in Leeuwarden. It was in the time that the cloned sheep “Dolly” and genetic modified bull “Herman” were world famous. I always wanted to do something in the field of genetic modification. I was part of the second generation students that graduated from the specific study since it was quite new. Besides this, I worked a while in the catering industry, at the ferry from Harlingen to the beautiful island Terschelling. The catering industry still attracts me but I’m very satisfied with my job as a practical teacher.

Did you do many sports in the early days? If so, which one?

Haha, I have once committed volleyball but that was certainly not a great success! At first... sports and me were not a great combination, I really don’t like sports. If I occasionally watch sports, it is mostly speed skating. Particularly the shorter distances because the long ones, like the 10 km, are way too long for me to watch. Since a year or 2, I also watch Formula 1 but that’s mostly because Max Verstappen participates. Occasionally I do some jogging and go to the gym but I’m quite sensitive for knee injuries so that also goes with ups and downs. But I must say that I reach my daily steps by only walking around the different labs and guiding students!

How did you get into this profession?

As mentioned earlier, I have studied biotechnology at the Noordelijke Hogeschool Leeuwarden. After I completed there were two options I considered.

The first one was Microbial Ecology in Haren and the other one was a job at the Immunology department at the Erasmus University in Rotterdam. Eventually I chose Microbial Ecology because I did not want to move to Rotterdam. And ever since I have been stuck here at the University of Groningen. After working a couple years at that department switched to a company called “BioMaDe”, which was a foundation related to the University of Groningen. Since 2007 the Pharmacy department is a part of my life and I must say that Pharmacy is the most enjoyable so far! I like the Pharmacy study and department very much because it is very broad; so it contains many different disciplines. Biology, Chemistry and Physics come together and that attracts me very much. In addition, the friendly environment within all its different departments is very enjoyable; everybody is always very helpful and supportive in the labs.

I must say that the Pharmacy student in general is very jovial; although my courses are though, I always try to let the students feel that they don’t need to stress. The most crazy thing I’ve ever experienced in connection to the students took place years ago, around 2010/2011 (before I became a teacher) when I guided two Pharmacy students during their Master. They literally left notes everywhere at even the weirdest places with the text “Karen and Karlien were here”. Six years later I still found those notes!

Can you describe a typical day at work?

Well normally for students a practical day starts at 9 AM and ends at 5 PM. But for me, let’s say for example a day of the course

Pharmaceutical Analysis, it starts at 7 AM, I usually start with replying lots of mails, mostly from students. Also preparing the practical for the students is done beforehand; and during the day the students perform their practical and I'll just assist and supervise the Technical Assistants. After the practical ends for the students, mostly at 5 PM, I have to round things off, do a lot of cleaning, answer even more mails and if it is really busy I'm not home before 7 PM. At the end of the lab course there are also plenty of days that consist of only checking reports; which is a lot of work, but important for the students because it is a big part of their lab grade. As of this year, I became a full time teacher, so that helps me a lot to do all my tasks.

What do you do besides your job as a teacher?

As you can understand the days are very long and my way to relax is to play Pokémon GO. I won't say that I'm addicted but I play it a lot. So I walk a lot outside to catch Pokémons.. does that also count as a sport !? I started in 2016 when it was a massive hype, and I never stopped. Together with a friend, I play it everyday in and around Groningen. It's the social aspect and the fact that you're walking outside that makes it fun to play.

Besides this, together with a friend/colleague, I make my own Apple Cider and Ginger Beer. After I got to know this colleague better we talked more and more about it.. and the result is that he has a giant distillation column in his living room where we make our own alcoholic products. So now and then we spend a whole afternoon distilling alcohol together and mixing until we have a nice flavoured liqueur or vodka.

Together with my family, we also have a dog which needs a good walk every day; some students might have seen her because she jumped on my desk during the online discussions. Which is the funny side of home education. Me and my wife also have a love for camping; we also own a motorhome. During the spring, we are camping almost every weekend at the camping site in Appelscha. Before the COVID-19 pandemic we used to go every summer holiday to the beautiful country that is Czech Republic. This year we'll continue this tradition no matter what! The things that I like about the Czech Republic are the helpful people, the beautiful nature and the cheap living. Also the "Krkonosé" (Giant Mountains) are amazing because the paths are not as steep as in the Alps so it is possible to walk in a "chill" way.

Ever since I was young I used to go camping with my parents in tents, motorhomes and folding trailers.. and twenty years ago my wife and I bought a motorhome ourselves. Since last year, the kids won't go with us on summer holidays, which is quite relaxed to be honest!

Although I miss them, it is also fine. Last summer my son visited us for three days which was very enjoyable! Fun fact "The Apple doesn't fall far from the tree" really applies to us because he studies Biomedical Sciences at the Hanze.. which I am very proud of.

From a reliable source we got informed that you are a really good baker. Can you tell us more about that? Cooking in general really interests me; during the weekends, I mostly take responsibility for producing delicious dishes. But foremostly baking cakes, pies and all the other goodies are really my thing. Is this a question from Annemarie, Charlotte and Xander? Haha, I found out because they already told me they had sent a question for me! So yeah, I really like baking and especially seeing that people really enjoy the things I make gives me a good feeling. In addition, due to the fact that the question comes from the TAs and a colleague, I can say that I sometimes bring a cake or pie for them during the practical.

It all started with 24Kitchen (like with most hobby-bakers), you know Rudolph's Bakery et cetera. And since I'm slowly starting to reach my 50's, I am allowed to say that I also enjoy "Heel Holland Bakt" from Omroep Max. Sometimes I get asked why I won't participate.. well I really like baking but all the little fiddling with the marzipan flowers is nothing for me. My favorite pie must be just the traditional apple pie! Apple itself is a beautiful tasty ingredient that can be incorporated very well in for example a delicious cake. And with apple I'm sure that everybody loves it. Recently I made a Lemon Cake that was mouthwatering; also my homemade "Whipped-Cream Pie" is something I really like. But so to say apple is my favorite. For my birthday, I tried to make a Mocha-cake but the buttercream sifted so I threw everything through the sink. So, in the end, I bought a cake from Albert Heijn at a 35% discount haha! I won't give up.. someday it will succeed.

As earlier said, it's not only baking that I love, also cooking is a passion. My favorite cuisine must be Japanese Cuisine. I really like spicy food and the taste of Soy Sauce is so delicious! Making my own sushi and spring rolls is really fun and it is something that you can serve me every day. Maybe after I retire I'll go to Japan to travel around a bit and discover the amazing cuisine.



Master Activity



On Friday October 29th, the first Master Activity of the academic year 2021-2022 took place. During this activity, we played boules at BOEL in Groningen. Master's students from different study years had applied for this nice activity. The evening started with a few drinks after which everyone played several games of boules in teams of 4-6 people. Some students were quite good at jeu de boules, which made it fun to play this game with these students. During playing boules, there was time to chat with other students and see how other teams were doing. In addition, two BENU pharmacists were present who gave information about working in a community pharmacy and the possibility of doing internships in a BENU community pharmacy. This was nice to know. Furthermore, while playing boules there was also the opportunity to have a drink with other students and the pharmacists. We enjoyed some "bitterballen", a real Dutch snack. At the end of the evening, the two pharmacists also received a small gift for their contribution to the nice evening. After this, most students stayed to have a few more drinks and "bitterballen", chat with each other and played some board games. All in all, it was a very pleasant and successful Master Activity!

Puk Hessling

PharmaLead Lunch Lecture



Dear P.S.ers,

On Wednesday the 24th of November, the PharmaLead Lunch Lecture took place. At 1.00 PM, Jonne and Patty from PharmaLead welcomed us and we started with a delicious lunch. After lunch, Jonne and Patty briefly introduced us to PharmaLead and we started an interactive workshop.

We kicked off the workshop with a short introduction of ourselves. Thereafter, we were divided into three groups and each group got its own (simple) assignment. However, all assignments overlapped each other in such a way that no assignment could be completed simultaneously. The situation quickly turned into chaos after kick-off. I couldn't help myself to start laughing and I got some flashbacks to kindergarten. People started screaming, laughing, stole chairs and sneakily tried to manipulate the assignment by removing stickers. Some "lost individuals" desperately tried to cooperate with other groups to control the chaos. After about ten minutes of total chaos, the assignment was finally completed.

Afterwards, we extensively evaluated the assignment, in groups and individually. The assignment which, was intended to be simple-minded, demonstrated us some psychology basics involved in collaboration. After an educative workshop, we all turned home wiser (and as proud owners of some new PharmaLead gadgets).

To everyone: I would like to thank you all for this educational lunch!

Marijke van der Wagt

Hospital Pharmacy Evening



Fagron Lunch Lecture



On Wednesday the 8th of December, the Hospital Pharmacy Evening took place online due to corona measures. The evening already started delicious because P.S. arranged a free meal consisting of fries with a snack from the Frietwinkel. The Hospital Pharmacy evening began with the presentation from Ms. Mian who works as a hospital pharmacist in training at the University Medical Centre Groningen and gave information about the training to become a hospital pharmacist. In addition, she gave insight into her own path of becoming a hospital pharmacist in training and what a typical week of work looked like for her, which was quite packed. The second presentation was held by the hospital pharmacist Mr. Zielhuis, who works at the 'Medisch Centrum Leeuwarden' (MCL). He told us about his work as a hospital pharmacist, what a typical day would look like for him and the possibilities in the future for hospital pharmacists. Afterwards he provided us with some useful answers to the questions the audience asked which made it more interesting. In summary, this evening provided very insightful information about the training and the possibilities of becoming a hospital pharmacist and has at least helped me quite a lot in deciding if this career path would be something for me!

Marilène Wolfswinkel

On the 9th of December, the Fagron Lunch Lecture took place. During this lecture, Sjoerd van Olffen talked about what it is like to work at the pharmaceutical company Fagron. Despite all the COVID-19 measures, the Lunch Lecture could still proceed online.

After graduating, many Pharmacy students are going to work in community or hospital pharmacies. However, that is not the right fit for everyone. Sjoerd van Olffen showed us that working at Fagron is another career path Pharmacy students can follow. Fagron is a worldwide market leader in personalized medicine active in 35 countries with over 51 locations. Fagron is specialized in the production of excipients, but also produces different products and personalized medicines.

Sjoerd van Olffen talked about the ongoing problem of medicine shortages, in which he plays an important role as innovation manager at Fagron. Fagron tries to assist in overcoming medicine shortages by compounding different products by working together with community and hospital pharmacies. All to get the best care for the patients. Furthermore, the different functions of pharmacists in Fagron were discussed, which ranged from working at the innovative department to working at the production facility as a production pharmacist. The lecture was very interesting and gave everyone more insight in pursuing a career at a pharmaceutical company after graduating. Lastly, I want to thank the board for organizing this very educative Lunch Lecture.

Cilia Jonker

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ALLus Activity



On Tuesday the 14th of December, the ALLus Activity took place. Unfortunately, this was one of the first activities again which was held online. Before the activity started, we cooked a nice dinner with some friends. At 20:00h the Lustrum Committee revealed their program for the Lustrum weeks with a very creative video and a nice speech. We were all very enthusiastic about all the upcoming activities and we immediately discussed for which activities we will sign up. During the reveal, we enjoyed the delicious craft beers. After the Lustrum Committee had revealed their program, the Almanac Committee revealed the Almanac and its theme. We were very curious about the theme of the Almanac. First of all, there was a nice quiz with some easy but also some difficult questions. We wanted to win the prize and guess the theme, so we were very fanatic during the quiz. Unfortunately, we did not win the prize but we were very close to guess the theme. We thought the theme of the Almanac had something to do with the sky and stars; however, the theme of the Almanac is Nocturnal! The evening was very fun and we look forward to picking up our Almanac and participating in a lot activities of the Lustrum!

Maud Hulsbeek

First-Year Excursion



On the 15th of December 2021, it was time for the First-year Excursion to the Baxbier for a tour around the brewery and the tasting of their beers. After meeting at the chromosomes in front of the UMCG with our bikes, we cycled towards the brewery. Once we arrived, we were welcomed inside and were already served our first beer. It was a light citrus-flavored beer that tasted very nice. Then the tour through the brewery started. Our guide was one of the owners of the company. He first told us about the history of Baxbier; how to students in Groningen created it. After the short history lesson, we got a tour through the brewery, he showed us where the ingredients for the beer were stored and the malting happened. Then he showed us how and where the brewing process took place. In the last part of the tour, he showed us the canning station. We were explained that beer is better stored in a can than in a bottle because of the interaction with light. That is the reason why they recently switched from bottling beers to canning beers. After that, we came back to the café and received another three beers for tasting. Two IPAs which were very good, we also ordered some nachos with them. And at last, a dark smoked beer served with a chocolate brownie which had a very distinctive taste and was not liked by everybody. This was the last beer and after that, we all went home. It was a very fun experience

Ruurd Boonstra

The Possibilities of Pharmacy



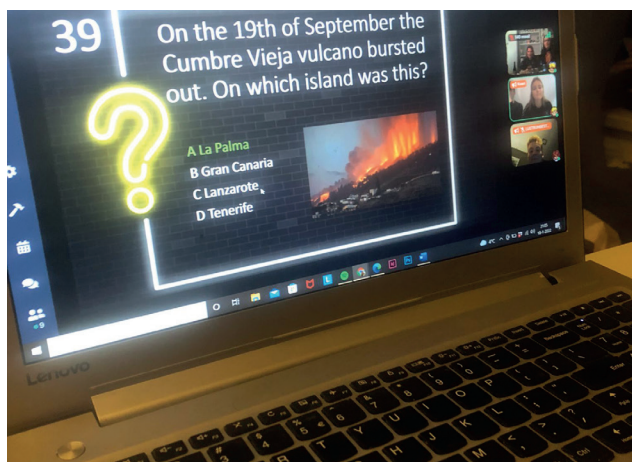
On January 17th, The Possibilities of Pharmacy took place. During this afternoon, over fifty Pharmacy students seized the opportunity to learn more about different kinds of career opportunities in pharmacy. The activity was organized specifically for people who wanted to know more about jobs outside public pharmacy and hospital pharmacy. Three speakers told us all about their career paths and their current occupation via Zoom. Firstly, Job van Boven, Assistant Professor at the University of Groningen, talked about his career path in academia. It was really interesting to learn about his experiences. His enthusiasm was very contagious! After that, Maurits de Rotte, clinical chemist at Amsterdam UMC, gave us a very clear picture of what a clinical chemistry laboratory looks like and what it is like to work there. He also elaborated on what road to take, should you want to pursue a career in clinical chemistry.

Shahrazad Haddad ended the afternoon with her presentation on working as a Research Pharmacist at ICON, formerly known as PRA Health Sciences. It was very nice to see the role of a pharmacist in a completely different setting than in a public pharmacy or hospital pharmacy.

I'd like to say a big thank you to all three speakers who took the time to tell us about these opportunities, and for answering all of our questions!

Nina Nooteboom

EJC Activity



On January 18, the first EJC activity of EJC "De Lammetjes" took place. Unfortunately, due to corona, the physical activity could not continue, but they organized a very nice online pub quiz. Each member of the EJC presented a round of the quiz, leading to six rounds of questions, which covered some general knowledge, P.S. know-hows and questions about nature and movies. The pub quiz took place in gather.town and multiple teams were battling hard to win the prize. One of the teams was, however, disqualified as they were cheating and looking up the answers online. This might have been a good idea for Carmen, who made a question about P.S. The question was "When was P.S. founded?", even though it is stated in the emblem of P.S., she still managed to mark the correct answer as 1880.

At the end of the quiz, the winners were revealed and fortunately, the 28th Lustrum Committee was able to reel in the prize (without cheating!). The prize was a beer-brewing package, with which we are able to make our own blond beer. It was a very nice evening and it was fun to join the pub quiz. We, as the Lustrum Committee, have the beer brewery package at home and will start making the blond beers. As soon as they are done, we hopefully can drink them together with the EJC!

Xander van Es

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BENU Pharmacy Training



Being a pharmacist requires a lot of competencies. Besides the fact that he/she needs to know a lot about medication, being able to deal with people in a good way is also very important. This is something that the last weeks BENU Pharmacy Training trained students in. The total BENU Pharmacy Training consists of three subjects. The last two years the subjects Market and Finance were covered and this year the subject Human was covered. The first evening we got a lot of information about communication. To really master the theory, we also did a few role-playing sessions. Besides the hilarity, it was also very educational. Giving feedback will always be important and if you learn how to do it properly, for example using the four Gs, it may result in better outcomes than by doing it randomly. During the second evening, the main topic was leadership. We discussed what is important in being a leader and as a preparatory assignment, we filled in a questionnaire. This resulted in a certain spectrum with the type of person your score is associated with. Through this test, you could become much more aware of the type of person you are and what your strengths and weaknesses are. In this session, we did again some role-playing games where empathy and the ability to interact with other types of people were tested. Altogether, it were, again, successful and instructive evenings that enhance a student's preparation for the function as a pharmacist.

Hessel Kooi

NIA Industry Information Evening



On January 27th, the NIA Industry Information evening took place online. Three enthusiastic industrial pharmacists gave information and answered questions about working as a pharmacist in the pharmaceutical industry. During the study of Pharmacy, the focus is laid upon the public and hospital pharmacy with little emphasis on other possibilities after acquiring the MSc Pharmacy diploma. The three pharmacists told us about their career path, the regular tasks and responsibilities of an industry pharmacist, what a typical day in the life of working as an industry pharmacist looks like, and most importantly, why they decided to go in this direction instead of the more popular choices. Furthermore, due to limited time, merely one case could be discussed within the session. The case itself elucidated several aspects and methods that are focused on/used in the pharmaceutical industry to solve problems concerning the production and quality of the products. In summary, it increased my knowledge of other directions that I could take after finishing my study.

This is an interesting and possibly helpful activity to get an idea of whether you should pursue a career in the pharmaceutical industry. Last but not least, despite the limitations caused by the coronavirus, the Pharmaciae Sacrum board did an excellent job in organizing and guiding this activity.

Simon Orah

Master Activity



Hey hello,

On Friday 4 February, it was already time for the second Master Activity of this academic year. The Master Committee Sprezzatura organised a sporting activity this time. We went curling and skating at Sportcentrum Karding with 26 future pharmacists.

I am the Syrian Sven Kramer, so I allowed others to shine on the ice skates. For example, I have observed that Laura ten Broek and Martijn Hagedoorn are real skating talents. Irene Schouten and Kjeld Nuis are nothing compared to them...

Curling was the second sport we practiced during this activity. For many, including me, it was the first time curling. We received an expert explanation from a nice woman. Such a curling stone weighs 25 kg (!) and mainly Scandinavian countries excel at this sport.

I would like to thank the Master Committee Sprezzatura for this sporting and educational activity!

Lots of love,
Akkad Issa

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KNMP Student award

Lisa Wibier

My 'journey' to become a pharmacist began in 2015. This was not the expected choice for someone who was born in a family of tax officers and teachers. I had the dream to become a doctor when I was young, but during the open day in Groningen, a Pharmacy student told me passionately about her major. To be honest, the simple facts that the study had no strict selections, that I felt a great interest for the effect of medications and that I did not have to overcome my fear of blood and needles, convinced me to apply for the Pharmacy bachelor. After comparing Groningen to Utrecht, I felt much more at home in Groningen. I chose to move to the far and unknown North, although Utrecht was much closer to my home. Fortunately, I have never regretted any of my decisions!

The first months of college were quite difficult for me. I needed to get used to my new environment and experienced a lot of stress. When I look back at myself, I was quite shy and afraid to fail. I remember that I was hesitant to join the freshmen camp. However, I eventually did and I was thrilled to meet new people, some of which would later become my dear friends for the coming six years and counting. Seven other freshmen and I became a close group of eager students, who always supported each other. Because of them, I gained more self-confidence, which I am so thankful for. I will never forget all the passionate discussions about pharmaceutical subjects during our many 'gourmet' evenings and pasta dinners!

At the start of my master, I began working at a policlinic pharmacy. During the same time period, I also did two internships in a community pharmacy and pharmacy game GIMMICS. My job has helped me to get more comfortable with calling and speaking to patients and doctors.

I surprisingly loved the chaos that I had to deal with in the policlinic pharmacy, in contrast to the (in my experience) more calm community pharmacy. I quickly figured out that, although I liked my job, a traditional pharmacy wasn't the place for me. That was confusing, because I wanted to become a healthcare professional and help patients since I was a child.

I gained much interest in pharmaceutical technology and research during my bachelor and master projects. I had chosen my bachelor project, which focused on finding suitable drugs to add to an orodispersible film formulation targeted at nursing home patients, because I was interested in special needs patients like young children and elderly. I was eager to continue this project and got the chance to do so at the PTB department with my master project. My master project consisted of three smaller projects, which focused on determining suitable APIs for pediatric orodispersible film formulations,

optimizing orodispersible films with levodopa and carbidopa and attempting to produce inkjet printed orodispersible films.

At the beginning of the pandemic, I was starting my elective internship at Deltion College. The day before COVID-19 regulations were announced, I taught my first hour-long class to aspiring pharmacy assistants. The next day, all teachers and I got together to figure out how to give shape to online education. It was an interesting time during which I learned a lot about presenting and how to interest students, although I was not allowed to enter the school building anymore. Before this internship, I was already interested in teaching. I had taught several ballet classes in the past. Afterwards, it made me realise that this is something that I might want to do (occasionally) in the future.

During the pandemic, I was not able to continue my project for the upcoming months. I did a Capita, a literature research, because I felt that I needed 'to do something useful' with my spare time. I learnt more about the production of pharmaceuticals in hospital pharmacies and researched smoke studies as a method to review airflow in cleanroom areas. I was asked to continue this research during my internship project ('Stage P') at the Martini Hospital, which I thoroughly enjoyed.

I was extremely surprised when I was awarded the KNMP Student's prize because of my grades and motivation. I always thought those prizes were awarded to students with countless side activities or those who had experienced internships abroad at exotic universities. I never really dared to do these things, because I was so focused on getting good grades. This prize proved to me that hard work and being consistent and trustworthy eventually pays off! I wish that I had not doubted myself so many times, especially during the first years of college. I am proud to be more confident now than six years ago.

While writing this, I am almost starting a new chapter: Product Development Pharmacist at Apotheek A15. This business, owned by the UMCG and three other academic medical centers, produces and develops various standardized extemporaneous preparations. Together with a team of pharmacists, I will design and review new formulations. Hopefully, I will also start a PhD there in 2023. I hope to learn a lot in the coming years and develop myself as a pharmacist, scientist and maybe even as a hospital pharmacist in the future!

I wish all P.S.ers a very happy 2022! Hopefully this year you will be able to enjoy the student life a little more than last year!

"I quickly figured out that, although I liked my job, a traditional pharmacy wasn't the place for me."



Can you solve
this...
Binary puzzle?

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0				0			1		1			0			



Voor jouw apotheek

'Al bij de start van mijn studie wist ik dat ik ondernemer wilde worden. Een eigen apotheek is mijn doel'

Soheila Kamphuis-Mardany

Je eigen apotheek zonder financieringsrisico

Je beheert een eigen apotheek, leert ondernemen en runt je zaak zoals jij het wilt. Zonder financieringsrisico. En als er iets aan de hand is, helpen wij je met een oplossing. Bestaat dit echt? Zeker.

Dit is wat Stichting Verenigde Nederlandse Apotheken al sinds 1948 voor jonge apothekers doet!

Doorloop je registratiefase bij VNA of begin als gevestigd apotheker. Gevestigd apothekers delen al na twee jaar mee in de winst. Na vijf jaar beheer je de apotheek helemaal zelfstandig als medevennoot van VNA. Uiteindelijk is de apotheek 100% van jou.

Interesse?

Neem vrijblijvend contact met ons op om de mogelijkheden te bekijken!
Bel 033-460 10 00, mail naar vna@vna.nl of kijk op www.vna.nl





**Annabel
van den Bosch**

ab-actis

24 years old

**Birthday is on 22nd
of January**

**Grew up in Ermelo
where my parents
still live**

**What I like about being
ab-actis is the planning
and keeping track of the
agenda**

**My hobbies are:
Play board (or drinking)
games and shopping**

**Things I desire from P.S.:
Daan, I suppose ;)**

**One of the best PS
moments would be the
Foreign Trip to Warsaw**

**The course I really liked
was Farmaceutische
Productzorg en Kwaliteit**

In Vaatje I would probably
request something Ronnie
Flex

I would say I'm
- Assertive
- Candid
- Dutiful

I used to read a lot of
Harry Potter books
when I was younger,
I still feel nostalgic
reading those

If I to choose a favourite
beer it would be something
blond

My guilty pleasure is candy,
especially 'pretmix' from
Red Band

When I was younger I
wanted to become:

A lot of things, like
Karen from K3, a
princess and a zookeeper



Graduates

L. Ambrosio
J. de Boer
G. van Eck
T. Folkertsma
J. Fontaine
M. Gökce
X. Heeres
M. Lambert
C. Mayunga
M. Sharifi
S. Smits



Activity list

March

March 18 First-year Parents' Day
March 22 General Members' Meeting
March 23 Senior Symposium
March 23 EJC Party

April

April 8 Dart Tournament
April 12 SCP Meeting
April 12 P.S. Social Drink
April 13 Lustrum Reception
April 14 Pre Foreign Trip Drink
April 16 Lustrum Reunion Members Day
April 16 Lustrum Gala Dinner and Ball
April 21 - 27 Foreign Trip

May

May 2 Committee Carousel
May 3 P.S. Social Drink
May 6 Master Activity
May 12 After Foreign Trip Drink
May 18 Women's Activity
May 20 Commissioners' Activity
May 21 Bicycle Performance Tour (RWPT)
May 24 First-Year Career Day
May 31 General Members' Meeting

June

June 3 - 6 End-of-Schoolyear Camp (JAK)
June 7 SCP Meeting
June 7 P.S. Social Drink
June 14 EJC Party

Colophon

Editorial Committee

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Wietske van der Bijl
Jens Lammers
Emma Dorenbos
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