

# NEKST

VOL. 22  
NO. 1

AUTUMN 2013  
NEKST-ONLINE.NL

## CRYPTOGRAPHY

EXPLORING THE CYBER  
SIDE OF LIFE

### ALSO FEATURING

- ▶ PRACTICAL REPORT: ITALIAN GAS SUPPLY
- ▶ SPECIAL: BOARD TO BOARD
- ▶ COLUMN: SPRING IN SEPTEMBER

NEW  
DESIGN

ASSET



Econometrics

**APG**



# Preface

# NEKST

## Renewed



Although on the front page of the magazine it still says Nekst, you might not have recognized this magazine when you opened it for the first time. This summer we have completely renewed the lay-out of Nekst for which we can thank not one but two brand new lay-out editors. We hope to give you, the reader, a more pleasant reading experience and we would love it if you are positively surprised a few times when you turn a page.

We have not forgotten to come up with interesting content as well, however. We have arranged for two interesting columnists this year, Hans Schumacher and René Peeters, so make sure to check the columns! Besides that we have an interesting report by Daniël Schotanus who spent his summer at Stanford Summer Session, which also includes some beautiful pictures. Two editors also visited SCOPE I Vectum, the econometric study association from Maastricht, who happened to organize the LEVT this year.

If you are interested in who will provide you with all these kinds of interesting articles this year, you should also check out the Committee Introduction. Here you can get acquainted with all of our new editors and some peculiar facts about them. Now, I have already reached the end of my first preface. The time has come to sit back, relax and enjoy the read!



**Ernst Roos**  
*Editor-in-chief*

## COLOPHON

Nekst is the quarterly magazine  
of Asset | Econometrics ©2013

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### Printing

Grafiplan

### Circulation

850



44

## TOP-Week

In this article you can find an eye-witness report of a week that is worth remembering.

## Going South

As a continuation of the special from Nekst 4 of last year, we decided to pay SCOPE | Vectum a visit.



18

## ADVERTISEMENTS

Cover	APG
4	SER
Cover	Stichting Dierenlot
Cover	Towers Watson

## ARTICLES

1	Preface
5	From the Board
6	Nekst Committee 2013-2014
9	Column Hans Schumacher
10	Special: Cryptography
14	Practical Report
16	Committee Profile: Almanac
18	Special: Study Association SCOPE   Vectum
21	Column René Peeters



# Table of Contents

22



## Exchange Report

A beautiful collection of photos and stories of a wonderful experience at Stanford Summer Session.

22	Exchange Report	40	The Passion of Yannick Jacobs
28	Special: Board to Board	42	Living in Lodges
31	Lecturer of the Year Award & Game Afternoon	44	TOP-Week
32	Department Members' Meeting	46	Summer Photo Contest
33	National Econometricians' Football Tournament	48	Quatsch
34	The Teacher: Dolf Talman	49	Puzzle
36	The Father of Anouk Claassen	50	Graduates
38	Hart van Brabantloop	52	Agenda
39	Introduction Activity		

**SER**  
**SCRIPTIEPRIJS**



# Dear Members,

When you are an observant reader, you might have noticed that apart from the drastic change of the lay-out of Nekst, a small detail on the cover page has also changed: the logo of our association. Do not be afraid, Asset | Econometrics did not spontaneously change its logo; we are just celebrating our seventh lustrum this year!

The board of Asset | Econometrics 2013-2014 has just been installed for a couple of months and has been busy since this summer to make sure that upcoming academic year will be an unforgettable year for all of our members. As you might already know, the theme of the lustrum of this year is 'Lucky 7', referring to the seventh lustrum we are celebrating this year. Next to the regular activities that we organize throughout the year, a bunch of extra activities will be organized for our members. First of all, our members will get the opportunity to visit the pre-lustrum party, which will be organized in cooperation with three other departments from Asset. Moreover, a brand new committee has been set up that will be responsible for the Lustrum Trip. This trip will head to a destination within Europe and will last for a weekend. Furthermore, the almanac will be released at the beginning of next year, in which all memorable moments of the past five years pass by.

The highlight of this academic year will undoubtedly be the Lustrum Week which will take place from March 18 until March 22. The program of this week can already be found on the website [www.Asset-Econometrics.nl/Lustrum](http://www.Asset-Econometrics.nl/Lustrum). Amongst others, the week includes a company day, at which our members can get in touch with their potential employers. Furthermore, a members' day and a beer cantus will be organized. And last but not least, the week will be closed by a magnificent dinner and gala during which our members are able to show themselves in their best light. Hence, if you do not want to miss a great association year, keep an eye on our promotion channels!

Apart from the celebrations concerning this year's lustrum, the board also set up the Sports Committee. We noticed that

many econometricians are very sportive, for example considering the fact that we participated in the 'Hart van Brabantloop' with two teams that both performed very well. The Sports Committee is responsible for organizing a couple of sports events throughout the year and for coordinating the Champions League Pool. The board already noted that all participants of the Champions League Pool are very enthusiastic and that emotions can be running rather high every now and then.

As a final remark, I would like to thank the Nekst committee and especially the lay-out team for the great efforts they put in the change of the lay-out of Nekst. Although I was personally quite attached to the previous lay-out of Nekst, I must confess I see this step as a big improvement not only for our magazine, but also for the professionalism of our association in general.

In all possible ways I would like to wish you all a very 'lucky' year!

On behalf of the board,

Suzanne Vissers  
*Chairman Asset | Econometrics  
2013-2014*





# Committee

Text by: Jelle de Rooij

# Intro



Jochem  
Bruijninx

This 17 year old first year econometrician is calm and experienced in controlled chaos. If you want to wake him up in the middle of the night, do it with a good song he never heard before. He really loves music, he plays the piano and in the weekends he visits the pub and plays with his band. The strangest thing he ever did was a sugar-cube throwing contest from a six story building in Prague, onto a basketball pitch. His childhood hero is Donald Duck (of course) and he likes to switch up his writing hand from time to time (strange). If he could have a superpower it would be invisibility, he would walk around crowded places making weird noises.



Floris  
van Loo

This 21 year old third year bachelor student is doing a board year this year. He loves reading and especially running. He would like to run a marathon at least once in his life, but he is postponing it now because he is too busy. If you want to wake him up in the middle of the night, do not do this by breaking his window, otherwise things might go wrong. The TV show Floris wants to participate in is 'Wie is de Mol?' because he is very competitive. What is a little strange about him is that he eats a paprika as if it is an apple.



Vince  
Dentener

Vince is a 22 year old first year econometrician. He is honest, driven, a perfectionist and righteous but he can be chaotic too. His hobbies are playing poker and going to the gym, but you can also find him recharging his battery a lot. If you need him awake, take some Oreos with you and you can wake him up. If he could have a superpower he would have infinite energy (who does not want that?). Someday he wants the travel around the world to see strange animals and cultures. The personal motto of Vince is: "If you want something, go get it!"





## Maha Lharoui

Maha is 26 years old, in her first year of her master (Operations Research and Management Science). She is an idealist, dreamy, compassionate, perseverant and a little paradoxal. If she had a superpower it would be telepathy. In a previous life Maha was a magician (awesome right?). She likes writing, swimming and music. The strangest thing in her room is a gratitude rock, every night she says thank you to this rock for what she has and what is yet to come. Her personal motto is: "Fake it until you make it". Maha really wants to meet the Dalai Lama someday.



## Daniël Schotanus

Ambitious, competitive, creative, spontaneous and a little chaotic: Daniël used these words to describe himself. This 20 year old third year bachelor student loves to travel. Maybe that is why he would probably ask his future self where he would live. He wants participate in 'Wie is de Mol?' not only because of the countries but also for playing a mind-breaking game. Passing a statistics exam gives Daniël the best feeling in the world. If you ever decide to wake him up in the middle of the night, bring toast with peanut butter jelly on it if you want things to go well.



## Ennia Suijkerbuijk

This 18 year old second year econometrician lives in lodges in Tilburg. She loves playing the piano, which she already does since she was a little kid. She also likes playing badminton and squash. If you ask her if she wants to participate in 'Wie is de Mol?' she definitely says yes. She likes the game and thinks it is a great experience to be at all those places and cultures. She really wants to meet Big Bird from Sesame Street someday. She really wants to play Samwise Gamgee from Lord of the Rings. Her own life story, however, is more like 'Lord of the Cosine!'





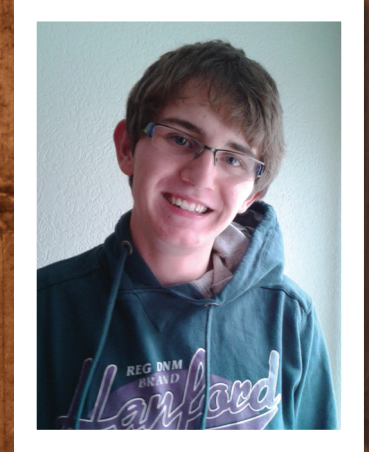
## Jelle de Rooij

The 19 year old Jelle is a second year econometrics student. He likes going out with friends, playing games and volleyball and watching movies. He is lazy, shy and quiet but if he is with friends you do not see these things anymore. His personal motto is: "Be yourself, there are already so many others." If you want to wake him up in the middle of the night (do not try this), bring a lot of chocolate with you, otherwise things might go really wrong. The one thing he really wants to do one day is go clubbing in all the big cities in the world.



## Laurant van Hoof

Laurant, a 19 year old second year econometrics student, likes watching sports. He is a referee for the KNVB, which is quite an achievement. In the weekends he leads matches through Brabant. The words he used to describe himself were: open minded, fast talker, social, enthusiastic and an evening person. If you want to wake him up in the middle of the night make some spinach hotchpotch with gravy, otherwise things could go wrong. He really wants to participate in 'Wie is de Mol?' once, because it is a great strategic game. The personal motto of Laurant is: "life is a barrel full of choices."



## Mike Weltevrede

Mike is a first year econometrician. He is enthusiastic, optimistic, pig-headed, persevering and spontaneous. If you see him in the weekends he is probably sleeping or video/picture editing. If you want to wake him up, bring some donuts with you and everything will be fine. He would never throw away his stuffed doll Woef, which he had since he was born. His personal motto is: "Be whoever you want to be and do not feel judged by the opinion of others." If Mike meets his future self he does not want to know anything from him. He wants his life to be a surprise and not to be spoiled.



# Understanding Institutions

When you are a scientist, it is very satisfactory to note that frequent references are still made in current research to a paper that you wrote 75 years ago. First of all, it means that you made a lasting contribution. A second implication is that you lead a long life and that the mental shape you are in still allows you to follow the scientific literature.

Hopefully it is obvious to the reader, after a quick glance at the picture at the bottom of this page, that I am not speaking about myself. The person I have in mind is Ronald Coase, who has finally laid down his pen on September 2, 2013, at the age of 102.

In 1937, Coase published a paper in *Economica* under the title 'The Nature of the Firm'. In this work, he discusses the fact that a large part of exchanges of goods and services takes place within firms. Exchanges within firms are not subject to the pricing mechanism that, according to standard economic theory, is so beneficial in achieving an efficient allocation of scarce resources. Would it not be better, he asks rhetorically, if all economic activity would be governed by the pricing mechanism? In other words, why do firms exist at all? Why are we not all freelancers?

Coase continues by saying that, if we can think of good reasons for firms to exist, then it should be explained why the processes of horizontal and vertical integration have not already led a long

time ago to a situation in which all economic activity takes place within a single company. This would effectively end free-market capitalism, although not quite in the way that Karl Marx predicted. Translating Coase's point to modern times: if we can argue why we are not all freelancers, then we must explain why we do not all work for Google.

In his 1937 paper, Coase mentions marketing costs as a factor that limits the efficiency of free-market transactions. The size of firms, in his view, is

## ■ 'Why are we not all freelancers?'

determined by the balance between the cost of using the pricing mechanism and the cost of organizing transactions within a firm. This reasoning is generally considered to be the beginning of what is now called the transaction cost theory of the firm, even though in fact the term "transaction cost" as such does not appear in the original paper. The theory is applied not only to firms, but also to other institutions; indeed, the school of thought originated by Coase is often referred to as New Institutional Economics.

Google Scholar finds approximately 1680 references to 'The Nature of the Firm' in the year 2012 alone; 975 citations have been counted in 2013 so far. Professor Coase presumably has not noticed that one of those many references is in a working paper by three researchers

at Tilburg University, namely Jaroslav Pazdera, Bas Werker and yours truly. This working paper deals with exchanges within pension funds. The existence of pension funds is not easy to justify under the neoclassical assumptions of rational agents and frictionless markets and Coase's theory of transaction costs can provide additional insight.

In addition to reduction of transaction costs, intergenerational risk sharing is often mentioned as a justification for the existence of pension funds. To

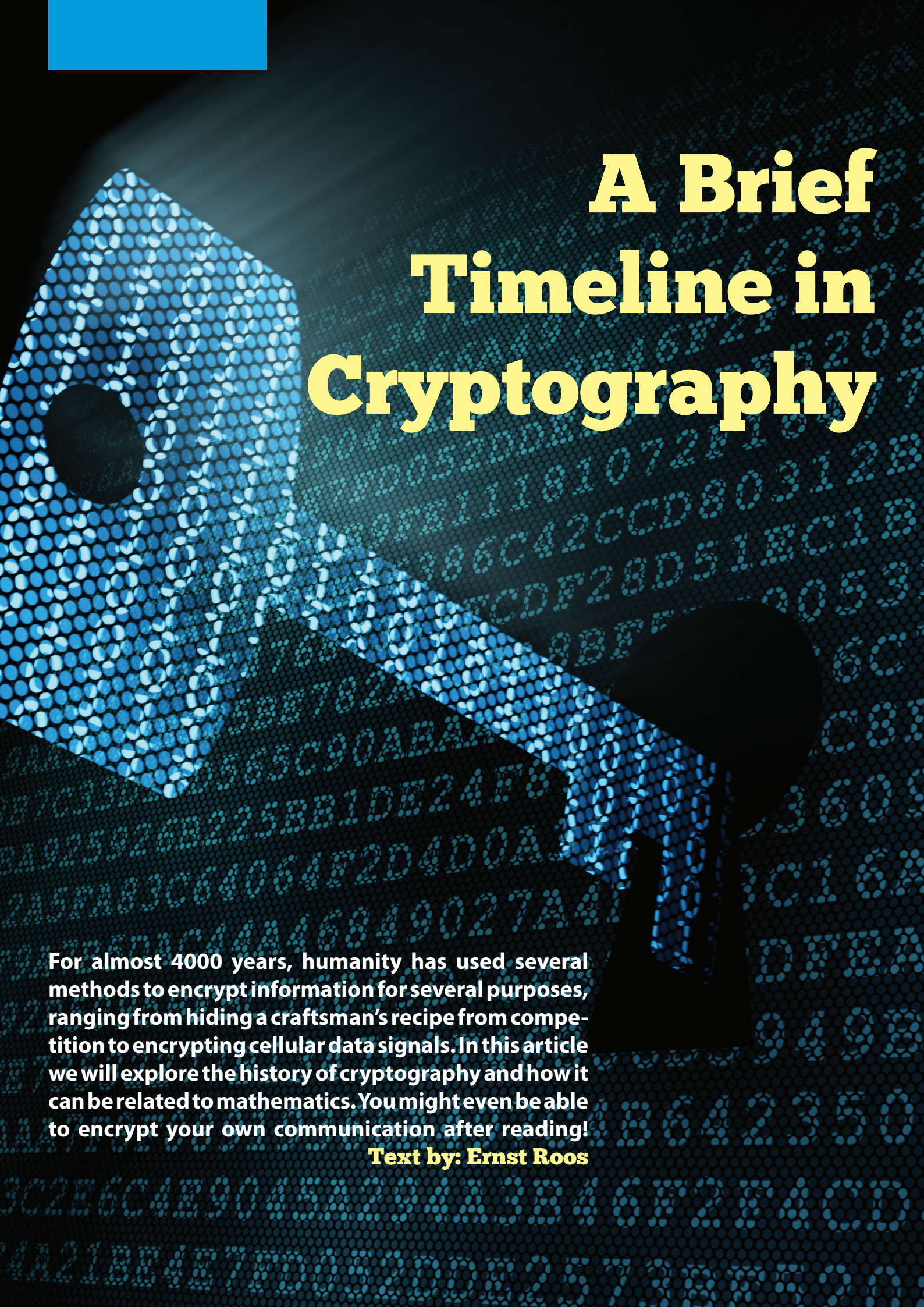
implement this form of risk sharing in a fair way, pension funds must exist for a long time. Perhaps, in addition to the transaction cost theory of institutions, there should also be a long-life theory: the reason of existence of some institutions is that they can span a long lifetime. I think Coase would have approved.

## Hans Schumacher

Hans Schumacher is an applied mathematician affiliated with the Department of Econometrics and Operations Research at Tilburg University. His activities in the modeling and control of dynamical systems have led him first to engineering and later in life to economics and finance.







# **A Brief Timeline in Cryptography**

For almost 4000 years, humanity has used several methods to encrypt information for several purposes, ranging from hiding a craftsman's recipe from competition to encrypting cellular data signals. In this article we will explore the history of cryptography and how it can be related to mathematics. You might even be able to encrypt your own communication after reading!

**Text by: Ernst Roos**





As already mentioned, the earliest known use of cryptography dates from 1900 BCE, when non-standard hieroglyphs were carved into monuments in Egypt. However, these hieroglyphs are not considered to be a serious attempt at hiding information by experts. The main purpose of these is thought to be mystery, intrigue, or even amusement for onlookers.

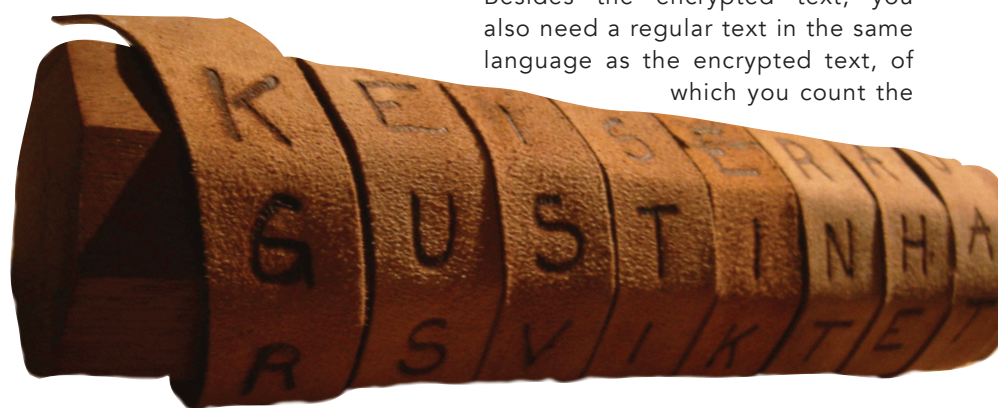
Other examples of early attempts at cryptography include simple versions of letter substitutions, discussed later on in this article, and some very ingenious other methods. One of these methods was the so-called 'skytale' cipher used by Spartans in the 5th century BCE to send messages between Greek warriors. In this method, a thin sheet of papyrus was diagonally wrapped around a staff and the message was written down the length of the staff on the sheet of papyrus. Afterwards, the papyrus was unwrapped and sent. In order to read the message the papyrus would have to be wrapped around a staff of equal diameter. Another well-known tale regarding hidden messages also originates from Greece. In this case, Demaratus (a Spartan king) wrote a warning about a forthcoming attack on Greece from Persia on the wooden backing of a wax tablet and then applied the beeswax surface. The message was thus concealed in the wax tablet, appearing to be empty when checked by Persian soldiers. This is, however, more an example of steganography than cryptography. Steganography is the art of hiding and concealing written messages, such that no one but the sender or receiver even suspects their existence.

Another method is the Polybius Square. The letters of the alphabet would be laid out in a five by five

square with i and j occupying the same square. Rows and columns would both be numbered, such that each letter had a unique pair (row, column), as can be seen in figure 1. Decryption is easily done by mapping the pairs back to the corresponding letters. This system was unique in the sense that it was the first to decrease the symbol set from 26 to 5. Therefore this method not only encrypts the message, it also makes sending it by use of torches or hand signals much easier.

### Monoalphabetic Substitution

Monoalphabetic substitution is a method in which each letter in the alphabet is paired with another to which it will be encrypted. The earliest example of letter substitution is a Hebrew ciphering method used in the bible. This method is called 'atbash'. It maps the first letter of the alphabet to the last, the second to the second to last, etcetera.



Julius Caesar is also well known for using monoalphabetic substitution. The system of cryptography he used, called the Caesar Cipher, shifted each letter two places further through the alphabet (e.g. A shifts to C and M shifts to O). This is closely related to what most of us have done in primary school, where you would have written the alphabet on the edge of two circular

pieces of paper. When laid on top of each other you could turn one and then obtain a shift letter substitution of any number of places.

### Cryptanalysis

Cryptanalysis is the practice of decrypting encrypted messages, without knowing the cipher used. The Arabian civilization was the first to discover anything significant in this field. Two Arabic authors are well known for their writings on cryptography and cryptanalysis, namely Al-Kindi and Ahmad al-Qalqashandi. Al-Kindi was the first to write on frequency analysis, a method for solving ciphers, which is still used today.

This method works for simple letter substitution ciphers, such as the monoalphabetic substitution method we discussed earlier. The method involves counting the frequency of each letter in the encrypted text. Besides the encrypted text, you also need a regular text in the same language as the encrypted text, of which you count the

frequency of letters as well. Using this average frequency you can quite easily decrypt the encrypted text.

Of course, once cryptography became more and more important in the Middle Ages, more people discovered frequency analysis and consequently also the main weakness of a simple letter substitution cipher. Therefore, a more





293847592384702936507238408912634890275320164097325620397420965028974506320947326509281750928640923759						
1	A	B	C	D	E	
2854298357982136489237598237973256203914209650281743320947326509281750928640923759823797325620391420965028174332094732						

Figure 1: Polybius Square

sophisticated method to encrypt information, called polyalphabetic substitution, was developed by Leon Battista Alberti. He was also referred to as 'The Father of Western Cryptology', because of his work in developing this method. The basic idea of his method was that in order to render frequency analysis useless, a different substitution cipher should be used every few words. However, he had not yet thought of a suitable idea on how to choose which cipher to use and when to switch between ciphers. This made communicating using his cipher very difficult, unless you could first secretly decide on these matters.

### Polyalphabetic Substitution

Giovan Batista Belaso extended this method by coming up with a system on how to choose a cipher. First of all, you need a list of ciphers to choose from. To do this you must generate one random cipher (i.e. a random ordering of the alphabet). Using this cipher you can create 25 more by simply shifting the cipher to the left and right. By construction you now have 26 different ciphers each starting with a different letter

(i.e. A is mapped to a different letter in each sentence). Now you might wonder how you determine which cipher you use to encrypt a sentence, a word or even a single letter. For this Belaso invented a keyword. This word would be written repetitively above the regular text, therefore assigning one of its letters to each letter of the regular text. The cipher that starts with this 'keyletter' will be the one used to encrypt the respective letter of the regular text. In this way it is close to impossible to decipher the text without using the keyword or the ciphers, let alone when not knowing either.

### Mathematics

The method by Belaso was used as a basis for most encrypting methods throughout the centuries, until mathematics started to take a more prominent role in cryptography. For mathematics to become involved in cryptography, a translation from text into numbers or binary digits is needed. This is usually done by using the ASCII-codes for characters. When this conversion is done, the problem simplifies to making sure the person you want to send a message

to can figure out the corresponding numerical version. I will discuss one of the main methods here, the 'Diffie-Hellman key exchange', which is a method for agreeing on a key or cipher.

### Diffie-Hellman

First of all, it is important to know what the modulo operation is. Although many of you will probably already know what it is, it is so fundamentally important to this method that I will explain it. The modulo operation gives the remainder of division of one number by another. For example,  $8 \bmod 6$  equals 2 and  $24 \bmod 7$  equals 3.

Now suppose Alice and Bob want to agree on a cipher with which they can communicate. Then they first of all need to agree on a prime number,  $p$  (in practice usually very large), and a base,  $g$  (usually 2, 3 or 5). Both of them will also choose a secret integer,  $a$  and  $b$  respectively, which they do not tell to anyone, each other included. These secret integers are also called private keys. Now both of them will compute their public keys, by  $A = g^a \bmod p$  and  $B = g^b \bmod p$ . They send these public keys to each other and are therefore known to anyone who cares enough to watch their communication.

Alice can use Bob's public key together with her own private key to obtain the message they want to share. Bob can do the same thing, but then with  $A$  and  $b$  instead of  $B$  and  $a$ . They do this in the following way:  $B^a \bmod p = s = A^b \bmod p$ , since  $(g^a)^b \bmod p = (g^b)^a \bmod p$  (for some mathematical background consider the little section with extra information). In this way both Alice



and Bob have obtained the same message (s), which they can now use as a cipher to communicate.

### Example

Since the above explanation is quite abstract, an example is probably required. Let us take g equal to 2 and p equal to 11, which everyone may know. Now let Alice pick a equal to 8 and Bob choose b equal to 12. Both Alice and Bob will compute their public keys,  $A = 2^8 \bmod 11 = 256 \bmod 11 = 3$  and  $B = 2^{12} \bmod 11 = 4096 \bmod 11 = 4$ . Both these public keys will also be available to anyone interested. Note, however, that in this case it is quite easy to

### Mathematical Background

When stating  $s = (g^a)^b \bmod p$ , we implicitly use that  $(g^a)^b \bmod p = (g^a \bmod p)^b \bmod p = A^b \bmod p$ . We can show that this holds by first stating that  $g^a = g^a \bmod p + kp = A + kp$  for some natural number k. This implies that  $A^b = (g^a - kp)^b = g^{ab} - g^{a(b-1)} * 2kp + \dots + (-kp)^b$ . All terms in this expression except for the first one contain a factor p. Therefore  $A^b \bmod p = g^{ab} \bmod p$ , which justifies our implicit use.

figure out which private key Alice and Bob chose. This is due to the fact that p is really small and there are therefore only 10 truly different options (i.e.  $a = 8$  gives exactly the same results as  $a = 8 + 10 = 18$  would give). However, also note that the 'easiest' way to obtain the value of the private key is to completely enumerate all possibilities. The complexity of this problem easily

spirals out of control when p grows larger.

Now both public keys are known, it is time to compute the message/cipher that Alice and Bob actually want to communicate. This cipher can be computed by Alice by:  $s = B^a \bmod p = 4^8 \bmod 11 = 65536 \bmod 11 = 9$ . Bob can compute this by  $s = A^b \bmod p = 3^{12} \bmod 11 = 531441 \bmod 11 = 9$ . A few things can be learned from this example. First of all choosing a private key larger than p (in this case b was larger than p, with values 12 and 11 respectively) does not contribute in any way to the security of communication. It does, however, make computations quite a bit more difficult, since  $3^{12}$  is a fair bit larger than  $3^2$ , but gives the same value when calculated modulo p.

Secondly, it is important that g is a so-called primitive root of p. This means that if you list all possible values for  $gn \bmod p$ , for n ranging from 1 to p-1, you will obtain a list of all values ranging from 1 to p-1. If this is not the case, breaking the encryption of communication becomes much easier. Imagine that we would have picked g equal to 3 in our little example. In that case  $gn \bmod p$  can only give 5 different values for any input n: 3, 9, 5, 4 and 1, repeating in that order. This greatly simplifies the complexity of complete enumeration (in this case it halves the number of options, which is quite a big deal when dealing with large values for p).

The beauty of this algorithm is that there are only three things which are in fact secret, namely a, b and s. In spite of this, it is close to impossible to obtain s from the information

publicly known (A, B, p and g). As long as you pick a, b and p large enough, which boils down to p at least 300 digits long and a and b both at least 100 digits long, even the fastest modern computers cannot find a, b or s within a reasonable amount of time.

### RSA

RSA is a method with which you do not agree on a cipher but actually communicate the message you want to send. RSA is used as the main method for encryption nowadays, for instance for encrypting e-mail messages, cell phone signals and monetary transactions. RSA was first publicly described in 1977 by Ron Rivest, Adi Shamir and Leonard Adleman at MIT; the initials of their surnames becoming the title of the algorithm. RSA, unfortunately, is too complicated to mathematically describe in this article. It requires some extra definitions and theorems from number theory which would take up way too much space. I do, however, recommend you to read up on RSA if this article has made you curious!

This concludes a journey through the history and modern day use of cryptography. There is still a lot of other information out there, especially on modern cryptographic methods which involve more complicated mathematics and modulo computations. So if you got interested, be sure to search for that! •

### References

- (1) Cohen, F. (1995). A Short History of Cryptography. Retrieved from <http://all.net/edu/curr/ip/Chap2-1.html>



# Italian Gas Supply

After completing the essential courses, the time had come for my study's final challenge, the master's thesis. I had the amazing opportunity to combine this final challenge with an internship at ORTEC Logistics. My enthusiasm reached its top when they offered me to be the first to investigate a growing gas industry requirement.



Every (ORMS) master student knows ORTEC. Even if a student has never attended a lecture of Goos Kant or Marco Schutten, then he must at least have seen ORTECs name underneath soccer statistics or on the Franz Edelman award in 2012. My interest in ORTEC started to grow in my board year, when I discovered the career possibilities of an ORMS graduate. After solving interesting ORTEC cases at the LED and the ORTEC Business Course, I decided to launch my career at ORTEC. ORTECs largest advantages are, in my opinion, the variety of work, the elegant practical applications of ORMS-techniques and their edge on knowledge and software products.

My research project is based on a real life situation at one of ORTECs partners. This partner is responsible for the delivery of gas to many individual households in Italy. About 50% of their customers call whenever they require a delivery. Because of changes in the industry, an increasing amount of these call-in customers need to be at home when their tanks are refilled. Currently, the standard agreement is to deliver the gas to customers within three days but the provision of more specified delivery windows increases customer satisfaction.

However, the customer service department handling the call-in

customers has no insight in the planning. Without this insight, specified delivery time agreements will probably result in inefficient logistic constraints. For example, if a half-loaded truck is in the neighborhood of a certain call-in customer on Wednesday, the delivery to this call-in customer on Wednesday will be relatively cheap. If the customer service department fixes the delivery timing for Thursday, the delivery of this call-in customer can be relatively expensive, since a truck might have to make a large detour on that day.

To compute the costs of a delivery, you could consider the costs of adding the order to the current schedule. However, in that case future call-in orders are not taken into consideration. To improve the results, call-in order costs can be computed on the basis of a future schedule forecast. The objective of my project has been to develop, implement and evaluate multiple heuristics, forecasting the logistic costs of a call-in order within the computation time restrictions.

ORTECs experience from earlier applications has been of large added value in developing the heuristics. Although this is the first order timing application in the gas industry, similar projects have been executed



in other industries. Brainstorm sessions and conversations with several of ORTECs experts provided me with a good scientific framework for a solution approach. In combination with techniques explained in literature, this led to five solution algorithms. From that moment onwards, the objective of my research became crystal clear: implement and evaluate these five solution algorithms.

The second challenge was the heuristics' implementation on real life data, software and business processes. To succeed, an extensive data analysis could not be skipped. In cooperation with multiple implementation consultants I managed to create the software code that did the job and provided the cost overviews I wanted.

The final challenge was the evaluation of the forecasted cost overviews. This evaluation is based on two real life datasets. Data from the first database is used as input for the algorithms to forecast the future costs. Since the second database contained information of the upcoming week in the same planning areas, the real order costs could be computed. With the forecasted and realized cost overviews I evaluated the algorithms on the basis of multiple quality measures.

Obtaining the databases was not easy, since the large datasets had to



results. In the recommended pilot implementation these two algorithms are combined to increase the quality. The algorithm of this recommended combination saves 55% of the costs of inefficient agreements due to detailed timing agreements. This corresponds to savings of thousands of euro's per week.

Provided with these results, I was invited to come to Italy to present my research and interactively discuss the practical application. During this workshop, I found myself in a meeting room together with about fifteen Italians including the executive board. Needless to say, it has been brilliant to discuss my

ORTEC can implement the solution approach as well. During the project, other companies have indicated their interest in the project's conclusions.

The interest of companies in my thesis project has been really motivating. However, as we all know, the main goal of a master's thesis is to develop yourself. Tilburg University and ORTEC certainly did a great job in offering me opportunities for development. I learned to cooperate with colleagues and partners in a business environment, I learned to structure a large research in a compact report, I learned to find and program a solution approach to a complex problem and I learned to manage my own largest project.

Now that the results of my research improve customer satisfaction on paper, my next challenge is to improve customer satisfaction in practice. Currently, I am not facing this challenge as a student, since the theoretical study gained me my master's diploma, but as an implementation consultant at ORTEC. •

## **'We were convinced that the solution has true possibilities in practice'**

come from Italy. Because of ORTECs healthy cooperation with this partner and the partner's healthy interest in the solutions of this research, the permission was obtained rather fast. After installing two huge databases from a production environment in Italy to a test environment in The Netherlands, the experiments could be executed to obtain the results.

Two algorithms showed the best

research with managers from all disciplines and the company's CEO. After various views and comments, we were convinced that the solution has true possibilities in practice, although some extended research and effort will be necessary. Not the worst possible first business travel conclusion, I suppose.

The results are not only applicable for one company; other partners of





**Cleo Mauritsz**

**AGE: 20**

Began studies in 2011

So what is this 'almanac' thing, you ask? According to the Oxford dictionary, it is "a handbook, typically published annually, containing information of general interest or on a sport or pastime". In our case, it is a book about Asset I Econometrics, its history and its members, that is produced every five years, coinciding with a Lustrum.

But why, should your reply question be, does it take a committee of sensible people a whole year to produce such a book? The answer to this question is quite straightforward: because a lot of stuff goes in there.

First of all, the content of the almanac has to be decided on: approximately 160 pages have to be filled with a mixture of stories, from old boards, symposia, committees or activities, photos and a category that to this day has not been named.

Affectionately nicknamed 'fun', this category contains cartoons, puzzles and loads more. For many of the more serious articles, external authors have to be selected to write about their board year, committee, etcetera. Even at this early stage, some alterations have to be made: some articles might not sound just as interesting the second time you consider them or cause problems finding an external author.

Once a preliminary division has been made and each page has been allocated to an article, the almanac has to be designed. The committee must agree upon a fabric and print for the cover, create a so-called master design for every chapter and make sure everything ties in with each other. Though this may seem easy, deciding upon which fonts, colors and pictures to use whilst battling the whims of InDesign, a



# So you are in the Ammoniac committee?

**Asset | Econometrics will celebrate her 35th anniversary in March 2014. Although most of you are probably not very aware of the upcoming festivities, the Almanac committee has already been working on an absolute Lustrum necessity since March 2013: the official Asset | Econometrics 7<sup>th</sup> Lustrum almanac!**



design program, can be a handful. If you visited the Asset | Econometrics rooms during the summer holiday, you might have come across a member of the Almanac committee cursing Photoshop, InDesign, the

almanac. We depend greatly upon these external authors donating their time and creativity in order to create an almanac every member of Asset | Econometrics can relate to. Every article that is sent in needs

done after all external authors have sent in their articles, but of course putting the almanac together is also a large task. Starting with a chapter in the previously designed style, the articles need to be placed on pages in the correct order and pictures need to be added. Then all the chapters need to be joined into a book and every single page needs to be checked and rechecked to make sure every article is present and flawless.

Finally, after all this is done, the almanac can be sent to the printers. From that time on, it will take another six weeks before we get to see our actual almanac in print. Are you already curious to see Asset | Econometrics' 7<sup>th</sup> Lustrum almanac? Then please come and collect it at the Lustrum reception next March. •

## 'Why does it take a committee of sensible people a whole year to produce such a book?'

photo computer or all of those at the same time. At the time I write this, however, the design seems to be coming together nicely.

Then, after the announcement of the Lustrum theme, we are finally allowed to contact the selected external authors and ask them if they are even willing to write for the

to be checked by a member of the Almanac committee, then approved by myself and finally approved by Floris and Willem, representing the board in our committee. Hopefully, these thorough checks will prevent most, preferably all, errors and typos from appearing in the almanac.

Now it may seem like our job is





# Interviewing Southerners

On a bright Monday afternoon we traveled all the way down to the very south of the Netherlands – Maastricht, where we were to meet with the econometrician's association at Maastricht University; SCOPE | Vectum (an abbreviation of Verenigde Econometristen Uit Maastricht).





**Jim Bemelen**

**AGE: 21**

**Chairman  
SCOPE | Vectum**

We hop on a bus and are surprised to find it taking us straight through Maastricht's city center. After crossing the river Maas and passing the St-Janskerk we immediately decide we will walk our way back as not to miss out on the mentioned landmarks: in Dutch terms, the city's traits give a unique, foreign feeling to any Northern visitors, already hinting at both the city's and University's internationally-minded attitude.

Maastricht University (MU) is divided into multiple schools spread throughout the city. We find ourselves not more than a 2-minute walk away from the city's large market, filled with café's and bars, when we reach the front gate - a small, firm portcullis connecting directly to the road. It opens up to the University's School of Business and Economics, consisting of a large building on one hand, which holds the classrooms, and multiple smaller buildings on the other, where most of the study associations are located. After spending some time around the campus, we are greeted by SCOPE | Vectum president Jim Bemelen, who guides us to a characteristic building and up a small flight of stairs, leading to a cosy, authentic room. Vectum's setup and the warm welcome they



gave us fit perfectly with a small, hard-working association. Our conversation proved they are.

With a total of 240 members, SCOPE | Vectum is the smallest Econometrician's association in the Netherlands, rendering their approach and character unique in a number of ways. "At Vectum, it is easy to get to know one another," Jim tells us, "especially with the large number of activities we organize." The events are indeed plentiful - even though the larger part of Vectum's members is always willing to participate, the activities do not have to be too extensive; for example, a weekly drink is held every

The small scale can also be found within the study itself. At Maastricht University, Problem Based Learning (PBL) is applied to a lot of studies. Econometrics, too, revolves around this principle of learning where students are placed into smaller groups, which then apply both the learned theory and their own orientation onto given problems/cases they have to solve. "In Econometrics, the difference between Maastricht University and other Universities is not affected too much by this method, since problem-solving is often a regular approach," says Ellissa. Fabiënne continues: "But it does allow for us to work in much smaller groups, supervised by

## **'At Vectum, it is easy to get to know one another'**

Tuesday. Further helping to establish this high frequency of activities is the willingness of active members to get involved in organizing. For example, a member might have access to a location that can be used, or they might help out with decorations. The board members themselves, too, get involved where they can. "At our last event, the Oktoberfest, I assumed the role of bartender and DJ", Jim laughs. About 20% of Vectum's members can be considered active on paper, but other board members Ellissa Verseput and Fabiënne Verwey explain to us that the actual rate can be considered much higher: sometimes, a group of members propose a small activity they would like to be held. If accepted, these students are assigned as their own, temporary committee - an approach that has been fruitful in the past.

a professor which allows for clear contact with the lecturers." This also aids Vectum in organizing their study-related activities: not only are they able to keep in touch with the University, sometimes the professors can help out personally as well. A good example of this is the research lecture Vectum organizes, where a guest lecturer speaks about a study-related subject. At times, some of the professors voluntarily hold such a lecture.

Another large study-related activity Vectum organizes is the business trip, where students visit approximately four to five companies - a company a day - over the course of one week where they are introduced to the practical side of Econometrics. The trip also provides social activities: after visiting the companies, →



the students go out for dinner etcetera. "The right balance between formal and social is probably why we all like the business trip so much", Ellissa mentions. However, the business trip also shows the downside of being a small association: when trying to find co-operating companies willing to open their doors, you are more likely to be turned down when there are simply

this year, focusing on getting in contact with German companies as well as helping out with translating correspondence and flyers to further connect to the German students. Vectum has since appealed to several German companies, but because of Econometrics being a relatively unknown study there, response is low - "though econometricians could certainly be of use there, as

part - in fact, it allowed for close contact. One of the tougher things was for us to arrange everything on a location far away: as it is a national tournament, it would not be reasonable for us to hold it in Maastricht, so we picked Utrecht." Still, it should be mentioned that the amount of different aspects handled by such a small group of people was impressive. Arranging for sponsors, determining and ordering a correct amount of shirts and food for the participants, all had to be taken care of weeks in advance. "The process still isn't completely finished, either. Right now we are still taking care of compensating travelling costs and collecting contribution funds. Overall, the LEVT was a fun challenge for us."

In the coming years, however, Vectum could be looking at a large growth in members: 2 years ago, the University welcomed 60 new Econometrics students, whereas this year nearly a hundred people signed up. And Vectum? "All students are welcome, of course - more so, no fee is charged for membership!" We conclude that, whatever Vectum's size, the association will not lose its character and thank the board for their time. ●

## **'We conclude that, whatever Vectum's size, the association will not lose its character'**

less students coming. A shame, Jim mentions, because Vectum has a lot of members interested in visiting the diverse range of companies they assemble each year. Another factor making it more difficult to accomplish is Maastricht's position as an international University: due to its location being close to the border, the rate of international students, especially German ones, is very high. In Econometrics, about 20% to 30% of the students is German, making it difficult for them to connect to companies visited on the business trip. Because of this, Vectum has set up a new committee

well. Luckily, we are now able to communicate properly thanks to the new committee. "This is just a small grasp of the hardships that come with the running of a small association", which Vectum seems to handle so well.

Their capability was put to the test this year, as Vectum was appointed to organize this year's LEVT - the national Econometrician's football tournament. Jim, who had been planning the event for months, gives us a small insight into the things that needed to be accounted for. "Organizing the LEVT with a small group of people was not the hardest



# Spring in September

In life there are some requests that you cannot refuse. This is what came to my mind when the editors of Nekst asked me whether I would like to become a columnist for this year. Being a virgin in this discipline, I feel honored and promise to do my very best.

Do not expect me to entertain you with all kinds of econometric hot items. I am not an econometrician like most of the readers, so I leave this to other authors.

## **‘Do not listen to advice from middle-aged men who still think they are young’**

Neither will I annoy you with good advice or moral issues. My only advice would be: ‘Do not listen to advice from middle-aged men who still think they are young’. Especially not when they are also bald, fat and limping. Instead, let me share some experiences and ideas with you.

As you probably know, I combine my work as an assistant professor at the university with running a dairy farm at home. One of the reasons I decided to take over the farm, was that I did not want to spend my entire life in an air-conditioned office. I like mathematics and I like to work with students, but I also like to be outside and I like physical work. An interesting aspect about running a farm is that you cannot control everything. I know, it is a cliché, but you

are highly dependent on what mother nature offers you. To give an example: you probably did not notice, but this year was an extremely bad grass year. The spring was dry and cold, the summer was dry as well and now the days are rapidly shortening already; the season is at its end. As a result, there is much less feed for the winter and in accordance with some well-known economic law, the price of feed is high. Luckily, the price of milk is also high, otherwise some of my

colleagues would definitely block some roads to Brussels with their tractors and ask for extra subsidies.

At this time of the year, when the growing season is ending and autumn and winter are ahead of us, I am glad to have a position at the university as well. September is the month that a lot of new life enters our department. Some new Ph.D. students start, but above all, a new group of young, fresh and enthusiastic first year students arrive. On average, they are talented, ambitious and well-mannered. In the lecture room they already look very mature, but when grading the mid-term, one finds out that they are still vulnerable and uncertain. However, like newborn lambs in spring, they will change rapidly. Within a few months, those that survive the first

weeks all become ordinary sheep and a full member of the econometric flock. They learn what vector spaces are, as well as linear transformations, bases, block matrices, upper triangular matrices and left invertible matrices. They learn how to row-reduce, how to determine LU-factorizations and how to calculate the volume of a parallelepiped. In short: they are prepared for a successful career at our department and afterwards. It feels like a privilege to play a role in this transformation and it makes me stay young, although I must admit that I never get compliments with this tendency.

My work at the university compensates the shortage of daylight in the winter and seems to shorten the period between harvest-time and spring-time when we again start to plough, manure, sow, etcetera and hope that the new season will be good. I advise all farmers to follow my example.



## **René Peeters**

René is a part time assistant professor in mathematics at the Tilburg School of Economics and Management. Together with his wife he runs a dairy farm in Dongen. He is interested in discrete mathematics, Celtic music and athletics.



# Die Luft der Freiheit Weht

My experiences at Stanford University





**Stanford University is one of the world's most prestigious universities, located in the heart of Silicon Valley. It is the place that changed the world. And it still does. Apple, Hewlett-Packard, Google, Twitter, Instagram, Snapchat and many more companies - they are all based in the Valley. And yes, many of their founders are closely related to Stanford University. As of 1952, 53 faculty members, staff and alumni are Nobel Prize winners. As you can imagine, spending my summer of 2013 at a university of such proportion, would be one of the best experiences of my life.**

After the summer of 2012 I decided to 'do it differently' next year. I felt that celebrating summer for more than two months was too much, especially in this phase of my life. I wanted to do something more active - something that did not make me "dumber and fatter". Several scenarios went through my mind, ranging from living in Paris to improve my French, to doing voluntary work in Africa. Eventually, I ended up with the idea of doing a summer school. It did not take me long to decide to go to Stanford University. In fact, I only looked up a few other summer schools at different universities. As soon as I entered the Stanford Summer Session website, I was hooked. This was the place I wanted to go to!

Applications were accepted as of January 7th, 2013. I made sure that my personal information was uploaded a few hours after the site was opened. The process demanded quite some paperwork and patience, but it was not difficult. After only two weeks, I received an email, stating that I was admitted to the Summer Session of 2013. You cannot believe how excited I was! After waiting several months, arranging a US F1-visa, paying all kinds of fees (Americans love fees...) and packing my bags, it was finally time to head to California! The adventure started: off to San Francisco!

After the 10-hour flight, it only took 30

minutes to get to Stanford. As soon as I dropped off my bags and took a quick shower, I rushed to the campus. Thanks to Google Street view, I had already discovered the stunning campus from my laptop. However, walking there in real life was an even cooler experience! It is difficult to explain how beautiful the campus is. Much attention has been given to detail. Originally designed by Frederic Law Olmsted - yes, the same architect who designed Central Park in New York - the campus is still developing new areas. You enter the Stanford campus by driving onto the famous Palm Drive: a broad boulevard lined with majestic palm trees. From this point, you see perfectly symmetric, Mediterranean-style buildings. Everywhere on campus you see arches and sandstone carvings. Lawns are perfectly mowed and surrounded by flowers and eucalyptus, cedar and oak trees. Stanford's high-powered academic activity is mellowed with tranquility through these beautiful gardens. It is impressive to walk around campus and to enjoy everything that comes on your path (even groups of Japanese tourists). You often run into students that are studying or doing sports on the endless lawns, while others relax in the bright shining sun. Blue skies and temperatures of 25 to 30 degrees Celsius are a daily phenomenon.

Recently, Stanford expanded the campus in perfect harmony with large, more modern style buildings. The Engineering Department (one of the departments Stanford is most recognized for) will be the beneficiary of this expansion.

In the Main Building visitors can find the first Google server, as well as a replica of the Hewlett-Packard garage and the names of many famous Stanford Alumni. A short walk down the hall, one can peek into rooms with multiple 3D printers. The next in line was the Nano-Technology Laboratory where people in white lab suits were doing lab tests. All of it is visible to the visiting public. As you can imagine, my first impression of Stanford University caused an impression of awe.

The Stanford campus can hardly be called a university campus, as a result of its enormous size. I think it would be better to call it a city, due to the presence of nearly 700 major buildings. Just some

facts: Stanford has its own police and fire department, a hospital, a golf course, a shopping center, multiple hotels and the best possible sporting facilities that are home to many Olympic athletes, varying from baseball fields, swimming pools, gyms and a water polo stadium, to a huge football stadium that fits over 50,000 people. A guide told me that the



**Daniël Schotanus**

**AGE: 20**

**Began studies in 2011**



total amount of land owned by Stanford exceeds the size of San Francisco. For this reason, renting a bike at the start of the summer was not a bad decision at all.

During the opening weekend, it was time to move into the dorms and meet with the other summer students. In a short period of time, I met many →



people from all around the world. Their home countries ranged from Argentina to Singapore and from Puerto Rico to Iceland. In total, more than 25 nationalities attended the Stanford Summer Session. I stayed in a dorm with five other guys, two from Brazil, the others from Guatemala, Germany and Hawaii. From the start, we had a great time together and became good friends.

Living in dorms and going to dining halls twice or three times a day was a whole new experience for me. Not having to cook myself and having access to a huge buffet with all the food you could think of, was something I particularly liked. The big common tables in the dining hall are a nice way of meeting new people, whilst being entertained by live piano music played by other students. The dorm-life exceeded my expectations. It was a lot of fun to live with five other guys, to hear their stories and to discuss homework. Speaking about homework: this is something that more or less dominated my summer. This may sound sad, but actually, it was not. Professors at Stanford love to give assignments and essays as homework. In my opinion, this is a great way to get acquainted with the theory quickly.

In order to give you some more insight in the courses I took this summer, I shall briefly summarize them.

Money & Banking is a course taught by Professor Robert Leeson: Australian, wearing Asics shorts with bright red socks pulled up to the limit, day in, day out. Trust me, this man is a genius. He has great knowledge of more things than you can imagine. Classes consisted of discussions about topics ranging from current politics to unjustly earned Nobel



Prizes. For me, this was a completely new and interesting way of acquiring knowledge. My final project was on The Efficient Market Hypothesis and its critics.

Algorithmic Trading & Quantitative Strategies, a graduate course that is most closely related to econometrics. Although it was a difficult course, it was interesting! One of the things I dealt with was designing, testing, programming and implementing different trading strategies. As a bonus, the professor arranged several guest lectures from prominent people from the financial industry, e.g. from Goldman Sachs. My final project was on programming a

Dispersion Trading strategy in a trend following environment, buying and selling stocks whilst hedging with the S&P 500 Index.

Technology Entrepreneurship is the most impressive and most popular course that was taught at Stanford this summer. What is a better place to be exposed to entrepreneurship than in Silicon Valley? I learned how to transform ideas into action. The students of this course formed groups and became advisors to actual start-ups in Silicon Valley. My group was hired by an online micro-gifting company that was established only two years ago. We helped in market research, testing new





ideas they were working on. What an experience to be part of an actual start-up! The course confirmed to me how attractive entrepreneurship is and how synonym it is to Silicon Valley. A notable detail: Snapchat was founded by two Stanford students who took the same Technology Entrepreneurship course. Our final project for this course was to write a business plan for the online micro-gifting company, given the phase it was in now.

The learning and educative atmosphere at Stanford is outstanding, something I will never forget. The students and staff are motivated and ambitious, striving for the best. The motto of the university is 'Die Luft der Freiheit weht' ('The wind of freedom blows'). I think that this very well reflects the mindset of the people at and around Stanford. Everything is possible and nothing is too big or too crazy to think of. This is literally what you feel when being there. This mindset has an immensely successful track record; it brought technical innovation and entrepreneurial success to the world.

I underestimated the importance and greatness of Silicon Valley beforehand. Just by walking through Palo Alto (a beautiful, picturesque village adjacent to Stanford), you see several headquarters of companies that developed apps you have on your iPhone! In the area you will find Apple, Google, Facebook, Oracle, Shazam and many more successful companies.

As you might have guessed by now, spending two months at Stanford was a truly inspiring experience. I worked hard to meet all my deadlines. In fact, I have never pulled so many 'all-nighters'. But it was all worth it. I met many inspiring people, extended my knowledge in multiple fields of interest and enjoyed time spent in Silicon Valley and San Francisco. Sacrificing my summer holiday in favor of studying at Stanford is something I will never regret. This university is unique and one of the coolest places to study. I would encourage everyone to go to Stanford one day, or one summer, since it is absolutely worth the investment. It is a truly life changing experience! ●





ASSET



Econometrics



# **BOARD**

## **2013 - 2014**







Board 2012-2013

# BOARD TO BOARD

**After a long summer together with the new board in the E-building, the board of 2012-2013 was relieved of their tasks during the DMM on August 27. Now they can be found in the lecture rooms once again; but on a Thursday morning in September, they returned to the coffee corner of the E-building to tell us all the amazing, successful, happy, sad and mostly funny stories of their incredible board year.**

**Text by : Floris van Loo**

After a long summer together with the new board in the E-building, the board of 2012-2013 was relieved of their tasks during the DMM on August 27. Now they can be found in the lecture rooms once again; but on a Thursday morning in September, they returned to the coffee corner of the E-building to tell us all the amazing, successful, happy, sad and mostly funny stories of their incredible board year. When asked what the highs and the lows of last year were, they immediately remembered some great events. Cas and Marleen mentioned as obvious climax the LED, but there is much more.



	<b>Corné</b>	<b>Daniëlle</b>	<b>Cas</b>	<b>Marleen</b>	<b>Senna</b>
<b>Favorite pub</b>	Boekanier	Boekanier	Boekanier	Van Horen Zegen*	Boekanier
<b>Favorite 50ct Candy Shop article</b>	Coca Cola (not Pepsi) and cassis	Cola	Twix	Cola	Cola
<b>Breakfast</b>	'Goedemorgen' drink	Bread	Bread	Bread	No breakfast
<b>Music at the rooms</b>	iPod	Sky Radio / 100% NL	538 Non Stop 40	3FM	Radio Caz!
<b>Board dance or board photo</b>	Photo	Photo	Photo	Photo	Photo

\*Politically correct answer. In fact, she likes the Boekanier most as well.

Daniëlle added that there were multiple great events and that the AMW was really great, as almost all active members were together and had a lot of fun. Senna thinks that organizing successful activities in general is a highlight and she loved it to see how committed the active members were in organizing the activities and how much everyone enjoyed to attend the activities. For Corné, in general the entire process of changing the structure was a highlight. However, there are no highs without lows. This year's low was the cancellation of the Orientation Day, which was especially frustrating since they worked very hard on organizing this day. Corné: "Explaining the Econometrics department why it was cancelled was definitely a tough moment." "We would like to compliment them though, with organizing a great Bachelor Information Day for the first year students, to replace the Orientation Day for them."

### Back to School

Since they are all back in the lecture rooms, their lives are totally different from last year. According to them, it is not extremely difficult to study again, but of course after a board year you miss certain things and there are things you certainly do not miss. Marleen thinks she will miss her fellow board members most, or as Cas put it: they will miss the atmosphere at the rooms. Moreover, Daniëlle misses the structure in her life: instead of getting up early, she now goes to sleep late more often, which she actually does not like at all. Senna misses having a purpose and working for it together, while Corné misses discussing most. However, Daniëlle thinks he especially misses winning discussions, at which he was very good. Of course it also has advantages to follow lectures

instead of doing a board year. All five agree that it is nice to have more time for their friends. When they want to plan for example a lunch with a good friend, they can easily take a few hours off.

### Favorite Activity & Committee

Marleen liked the LED most as activity and as committee to be in. The others agree that the LED was the most remarkable activity and Cas mentions the great evening the board had together with the committee in Utrecht on the day before the LED. They had a nice pyjama party at one of the hotel rooms and were all really looking forward to the event on the next day. The choices for favorite committees however, really differ. Cas liked to be in the IBT committee together with good friends, namely his TIK (now known as TOP) brothers and sister. Senna loved the D&A committee most, for it was always fun to meet with this committee. For Corné, the choice for the Freshmen committee is obvious, since it is the only committee he was part of, but he really liked to be in this committee. Daniëlle preferred the Finance Expedition committee, since everybody in the committee was focused on organizing a great event, the committee members got along really well and it was nice to work together with another association. Another favorite of hers was the Nekst committee.

### Funny and Annoying Habits

During a year of living together in E1.10, you really get to know your fellow board members and their special habits. Corné, for example, always left lots of chocolate spread on his knife, which made it more work to do the dishes. The workplace of Marleen could easily be recognized by the huge amount of post-its lying around. Cas was very critical, he

even rejected a declaration of one of his fellow board members, because the receipt was stapled on the wrong side of the declaration form. A remarkable characteristic of Cas is that when he concentrates on his work, he does not hear what other people say. Often when he heard a good story or rumor about something that happened weeks ago, he complained that nobody told him earlier, even though it was discussed next to him in E1.10. According to the others, Daniëlle has a 'prethoofd' when going out and her smile gets bigger as the evening lasts longer. Daniëlle also adds one habit herself: she admits that she has a talent for wrecking computers. Lastly, Senna has the habit of tapping her pen on the table during meetings and to tell long stories during meetings with every detail thrice in it.

### Evaluation

When it comes to evaluating the year, everyone admits that they would have done some things differently if they had the opportunity to do it again. Daniëlle was a bit stressed at the start of the year, especially about small and less important matters. During the year she became much more relaxed and enjoyed it more. Marleen, Senna and Cas think they would be able to do things more efficient since they have much more experience now. Corné would have considered the cost (in time and energy) better of the things he did, especially in the evenings. For example, they visited some drinks they did not really have to visit when looking back. However, visiting all these drinks together made them a really close group. What they are all very proud of, is that they think they were very approachable for active members and always stayed themselves. As a board you make mistakes →



as well, and they were not afraid to admit those. Besides these things they encountered during their own board year, they also have an advice for the new board: do not forget to enjoy this year! Corné immediately admits that it sounds cliché, but time goes really fast and before a nice activity has ended, a new one has already started. Someone once said that during a board year you get two years older, since you learn and experience so much. Whether this is true is difficult to test, but the year has certainly had a big impact on the board. Senna agrees that you really change after

such a year, for you learn to cooperate better and to take responsibilities, and she is sure that those changes are positive. Corné thinks you really get to know yourself and that you learn what your strong and weak points are.

#### **Are you aware of the fact that we had a fantastic year?**

At the start of their board year, their predecessors made them and the attendants of the DMM aware of some crucial facts. Now the moment has come that they can inform us about some facts concerning each other. Daniëlle: "Marleen, are you aware of the fact

that you are not photogenic? Cas, are you aware of the fact that you are not subtle?". Marleen: "Corné, are you aware of the fact that you do not have to text people, by SMS, to inform them that you finally have a phone with WhatsApp?". Senna: "Daniëlle, are you aware of the fact that a light bulb does not contain batteries?". Corné: "Ladies, are you aware of the fact that the rooms were never cleaner this year than during the IBT?". I hope that they are all aware of these facts now and I would like to wish them good luck with their studies. Corné, Daniëlle, Cas, Marleen and Senna, thank you very much for a fantastic year! •

### **Tell us about your neighbor...**

	<b>Corné about Senna</b>	<b>Senna about Cas</b>	<b>Cas about Daniëlle</b>	<b>Daniëlle about Marleen</b>	<b>Marleen about Corné</b>
<b>Few words</b>	Dedicated worker, party animal	'Simpel', fairly direct, 'je weet wat je aan hem hebt'	'Stresskip'(in the beginning), 'gezellig', funny, nice remarks	'Giebelkont', chaotic, very sweet, lucky	Hard worker, knows what he wants, driven, brought his bag with statutes everywhere.
<b>Most memorable moment</b>	When she was wearing a ridiculous carnival outfit in E1.10 which Joep Thijssen brought to the rooms.	When we confessed to each other on Queensday 2012 that both of us had applied for a board year. We were so excited about it that we were literally jumping up and down at that moment.	When Maarten van Liempd called her from Wz205 and pretended that he was of the organization of the Batavierenrace. She believed him when he told her she still had to pay and that they could not participate in the race if she did not do this within an hour.	When we hung a big ugly picture of Marleen in E1.09 and all active members noticed it upon entering the room.	He was once disguised as Senna during Carnaval. He sent mails at 4 am in the morning.
<b>Where do you see him/her in a few years</b>	Senna will take a year off to travel around the world. She is going to do something weird/radical.	Cas will live on a luxurious farm. I do not know what his job will be, since Cas can do everything and will be suitable for every job.	Daniëlle will have a good job at a financial institution. She is driven, ambitious and works hard. She will be married and have a few kids; a happy family.	Marleen will be living together with Arjan near 'de Randstad'. She will work for a big company and have many kids.	Corné will be living together with Ingrid, but they will only see each other in the weekends since he will be working really hard for the management team of a Strategy Consultant.



# Organizing, Awards and Pizza

**In April we, the education committee, started planning the Lecturer of the Year Award (LOTYA). On the 25th of September this finally came to an end, when it was time to award last year's teachers for all their hard work!**

Firstly, we had to make a list of all of the bachelor and master lecturers. Secondly, we had to select the categories in which we would like to hand out prizes. There are two standard categories, namely the best bachelor lecturer and the best master lecturer. Therefore, we could think of two categories ourselves. Eventually we decided on the categories of most approachable and most handsome lecturer.

After this, we wanted a guest lecturer to speak during the LOTYA. Last year, prof. Hein Fleuren won the prestigious Edelman Price. We decided to ask prof. Fleuren, because this topic seemed very interesting to us and fortunately he was available.

So we had a guest speaker and we had a list of potential winners, but we still needed to make reservations for a location and some materials for the LOTYA. We reserved Tilbury's and ordered the catering there. Annick reserved the beamer and screen at the library and the only thing left was to e-mail the lecturers and students and wait for the results. A lot of students voted for their favorite teacher for which I would like to thank everybody.

Time passed quickly and before I knew it we only had one week left. After reviewing the results, we announced the nominees and made the certificates for the winners. We made the presentation and made sure everything was in order. The preparations during the day all went smoothly but one unexpected thing happened: ten minutes before the beginning of the LOTYA the fire alarm went off in Tilbury's. Everybody had to go outside and there we stood, ten minutes left and still a couple of things to prepare before we could begin. Luckily they found the cause quickly: somebody had opened the oven, which is nearby a fire alarm and everybody could enter the building again.

After the last preparations we could start with the LOTYA. We were happy to see that many people were present, both students and lecturers. After an introduction from Annick and an interesting lecture from Hein Fleuren about his GO project at TNT, I had to introduce the LOTYA. I was a bit nervous, because my throat hurt a lot, so when I started to speak I really missed a microphone. The announcement of the winners, prof. Norde, prof. Talman, dr. Vera Lizcano and dr. Boldea, all went smoothly. All of them gave a short speech and after this the LOTYA ended.

I thought it was interesting to organize the LOTYA because I did not know what you had to do to organize such an event. There are some things you know but you easily forget many things, especially the small things. I learned a lot from this and I hope the next Education committee will also have the opportunity to learn a lot, but hopefully the fire alarm will not go off again.



**Laura Verloop**

**AGE: 19**

**Began studies in 2012**

After the LOTYA the Game Afternoon took place. Everybody brought different games and one person even brought a Wii so that some could play Mario Kart. Even though there were a lot of different games, the most popular game was Risk. There were two class rooms and most of the time people were playing Risk in both rooms. Other games that were played were: The Settlers of Catan, Party & Co, 'Werewolves', poker and a lot more. However, most people did not know how to play poker so before we could start with the real game, a short introduction was given.

At the game afternoon there was also plenty of food, namely a lot of chips and also a lot of cola, orange soft drinks and ice tea. However, we still managed to eat and drink most of it. Nevertheless, after an hour most people started to get hungry. Luckily the pizzas arrived soon after this. The pizzas were very nice but also a bit large so I was not able to eat my whole pizza. After this, at the end of the Game Afternoon, the chairs and tables stood everywhere and you really had to look for a chair. It was a great Game Afternoon and I advise everyone to go next year because it was a lot of fun. •



# The Switch

**Finally, after waiting all summer the new board is appointed. The official part happened during the Department Members' Meeting. Afterwards, at the drink, the new board had some assignments to do.**

The first half of the meeting focused on reports of last year. Most activities are mentioned and Corné Ruwaard tells a little story about each of his fellow board members. Besides that the finance monitoring committee approved Cas Luijten's work as treasurer. So we can conclude that all the association's finances are ready for Annick van Ool, the new treasurer. During the break the famous cherry turnovers are presented. This time the difference between the cherry turnovers with whipped cream and the ones without was made very clear. The ones with cream have powdered sugar over it and the ones without whipped cream did not have any sugar at all. Of course this led to complaints that there were not any cherry turnovers without whipped cream and with powdered sugar. Nevertheless everybody enjoyed the snack.

After the break the candidate board presented themselves and told us which committees and

responsibilities they would like to take on. Then the voting took place, and even though the voting commissioner had some troubles counting, it turned out that nobody was against the appointment of the candidate board. With enough votes in favor, the new board is approved and appointed.

With the new board in place, the goals and plan for this academic year are presented. Some new committees are set up because of the Lustrum this year. The Almanac Committee and the Lustrum Committee have already been going on for a while but for this special

## **'Janinke Tol will have a hard time finding the perfect match for each active member'**

occasion the new board also set up a Lustrum Trip Committee and a Sports Committee. The Lustrum Trip will take place in January and will take a group of econometricians to a city in Europe for the weekend. The Sports Committee will organize some sports events during the year. With all the new committees, Janinke Tol will have a hard time finding the perfect match for each active member with a committee.

What I like most about the DMM is the subject AOB, which stands for any other business. It is a tradition that the old board has a few facts for their replacements. The old board made

it clear to the rest which members of the new board are a size 30 and who do not. Also Willem Jongen is told it is really unhealthy to eat a cornetto in two bites. Furthermore it is mentioned that Suzanne her skirt does not match with the rest of her outfit. This is due to some mistake the tailor made.

The meeting has ended and many members and other boards gathered at our favorite pub, Café Van Horen

Zeggen. Here the old board had some tasks that the new board had to fulfill to obtain the keys of the Asset I Econometrics rooms. One of the tasks was to make a picture with three people who are smaller than the all the board members. Since most new board members are not that tall this was quite difficult, they might even have cheated a little bit. Even though some tasks were hard to complete, the new board succeeded. Now we can officially congratulate Suzanne Vissers, Floris van Loo, Annick van Ool, Janinke Tol and Willem Jongen with their new positions and wish them good luck this year. ●

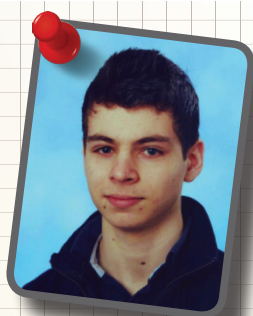


**Ashley Beringer**

**AGE: 19**

**Began studies in 2011**





**Jesson Einmahl**

**AGE: 19**

Began studies in 2012

# Two out of five is not bad

**Persuaded to skip classes and play football instead, which does not sound too bad at all, I woke up early to go to Utrecht for the LEVT (The National Econometricians' Football Tournament) for the first time. With a bunch of guys and also some ambitious girls, the teams of Tilburg gathered at Tilburg central station.**

After some traveling, which included standing in the bus and train for two hours, our big group arrived at a local football club in Utrecht. It was quite easy to find; there was a nice welcome and it was well organized. The tournament was hosted by the econometrics association from Maastricht called SCOPE | Vectum. Almost all teams were on time and there were literally all kinds of teams: casual mixed teams with mostly boys and sometimes some girls, teams which took themselves very seriously, sometimes even with a custom outfit for the group, and even a complete girls team that was trying their luck

that day! Our crew would be of the first category. Every team received a shirt for every player with one color per city and Tilburg got blue. After changing clothes in a crowded dressing room, our team was ready to kick off!

We started with a penalty session, which was new this year. Every team had to set up five players from their team to take a penalty and the keepers were provided by Deloitte, that was also the main sponsor. I managed to score with a doubtful shot, which gave us two out of five goals in total, which is actually not too bad. For the rest of the day we would

play matches of 15 minutes against different teams in our pool, meaning 15 minutes of playing and then a 15 minute break after each match.

day. The nice thing, however, was that whatever the level of your team was, you would always face one or two teams that made an equal and fun match. Besides, losing sometimes is not too bad because most matches were rather sportsmanlike and the opposite team was often very kind.

After the matches in the group stages, the finals per stage began and eventually the final game of the whole tournament started. Sadly, our title defenders from Tilburg did not manage to reach the final this year, but it was still a great match and many people were watching. That finished the soccer part of the day.

After changing clothes again, we all rested a while in the clubhouse and at last the barbecue commenced. There was enough meat for everybody and while the sun set, we happily ate on the stands or on the field, after which we had to run for the bus. After a long time traveling back, I arrived home rather tired, ready to call it a day. The next morning I woke with severe muscle pain and unfortunately I had to catch up with all the classes I missed, but it was easily worth it. It was a great experience and I will join the next tournament again for sure, which will be, for all of you who are interested, at the end of this year! •



Then we started with our first real match. Despite our fresh ambition though, the first match did not go particularly well. Some matches went well, whereas others went a bit worse that



## THE TEACHER



# To Approach or not to Approach?

Text by: Mike Weltevrede

Chosen last year as “funniest lecturer”, professor Talman scooped the award for “best approachable lecturer” during this year’s LotYA (Lecturer of the Year Award). We had the privilege to interview him and so, of course, we did. He extended a warm welcome to us when we arrived at room K517. Without rambling on too much, we started the interview.

So, professor Talman, congratulations once more on winning the award for being the “best approachable lecturer”. Firstly I would like to ask you if you could tell us something about yourself.

Thank you very much. Now, about myself: I was born in Leeuwarden in 1952 - the cultural capital of Europe in 2018 and also the city where the “Glass House” of 3FM will be this year - but I grew up in Stiens, which is located near Leeuwarden. After finishing the gymnasium I went on to study Econometrics at the University of Groningen, it already existed way back then. I studied there from 1971 until 1976. In that time the study still took five years: the propaedeutics took one year, the candidacy took two years, and the doctorate took

two years as well. After that, I went to the VU (Vrije Universiteit) in Amsterdam, where I got my doctor’s degree on February 29, 1980, in mathematics and natural sciences. Afterwards, I went to the USA for one year as visiting lecturer at Yale University. In 1981 I came to Tilburg, so that was 32 years ago.

Are you married and do you have children?

No, I have always been single. I have lived in the city center of Tilburg for 32 years now, near the central station and the shops. I also do not have a car, I always go by bike.

How about your life as a student? Did you enjoy it and why or why not?

Well, I have studied a lot during my life as a student. I have finished econometrics within five years which was pretty odd back then, since almost no one finished the study in the same time period as was specified. These days, it might still be odd but I do not really know. As a student, I did not go out much. Occasionally I went out and drank something with a few friends, but that was all.

You said that you went to America for a year. How and why did you decide that you wanted to go there?

Back then there was conscription (military service) in the Netherlands

and you could evade being enlisted by going abroad. I had already been accepted at Yale when I still had to be medically checked. However, when I came there to be checked the military doctor said: “We cannot use you with those bad eyes.”

And why did you choose to go to America and not England or the like?

I knew someone at Yale and he asked if I was interested to come and lecture there. If you are being asked to lecture at one of the world’s most renowned universities, you do not decline it. I am actually still in contact with the person, Herbert Scarf, who invited me.

In your free time, what do you like to do?

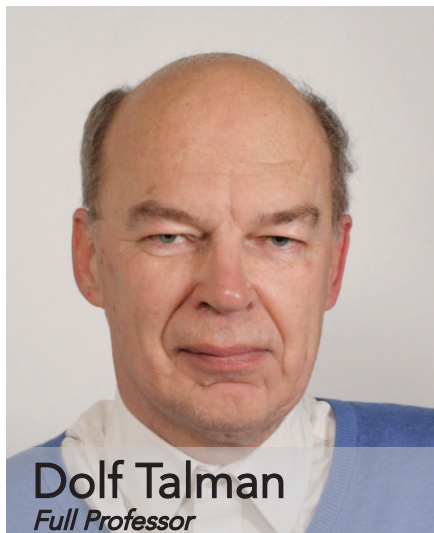
I like to perform research. I perform research in the field of game theory and the existence of equilibria. Besides that, I really like to cycle through nature. I have cycled throughout the whole of the Netherlands, so I know a lot of places and thus immediately have a subject to talk about with students, namely where they come from.

What subjects do you teach and which one do you prefer?

I teach Microeconomics for EOR, mathematics for EBE and the optional course Auctions, Bargaining and Networks. I prefer Microeconomics. I have been teaching it since 1976, which has been 37 years ago now.

Do you read in your free time, besides books for research, and if you do, then what do you read?

I do not read a lot, but when I do, I like to read books on history and geography. I really enjoy paging through atlases, especially old ones, because I can compare the



**Dolf Talman**  
Full Professor



landscapes from earlier days to the contemporary landscapes.

You have won the award for being the "most approachable teacher"...

Well, I did not win the award for "most approachable teacher". The award is in that cabinet over there, go ahead and take a look.

- I went ahead and took a look at the award. At first, I did not know where to look but I suddenly saw that the award said "best approachable teacher" instead of "most approachable teacher." -

That does indeed make a difference.

Yes, because most approachable teacher may also refer to the person who was contacted the most, so it can be negative as well.

You said that you worked towards earning this award a little bit, for example by answering emails relatively quickly. What has been your secret to win this award?

I think that talking with the students during the breaks has helped,



award or is it?

Indeed, I have received several more awards. \*He takes out an award, written in Latin\*. An example is this one from 1997, which declares

Carnival is mostly a holiday for young people, is it not? Why do you like it?

Well, when it is carnival time I am quite bothered by the young people who are partying hard. I like carnival just because it gives me an excuse to go back to Friesland. It basically means that I am going on a small holiday. •

## 'You do not approach mister Talman, mister Talman approaches you'

besides answering emails quickly. I just sit down at a student's desk and ask the student where he or she is from. As I said, I know most places in the Netherlands, because I have cycled a lot in my life. In 99% of the cases I know the place where they are from and I can talk with them about it, but in 1% of the cases I have forgotten the place and that also gives us a subject to talk about because I can ask where the place is located (and then I remember).

At the LotYA Laura quoted one of the students who said: "You do not approach mister Talman, mister Talman approaches you." Do you agree?

I think that quote mostly has to do with me just walking up to some students and talking with them. So in that sense I do agree.

Having worked here for 32 years, this is most probably not your first

that I was the best teacher in propaedeutics Econometrics.

If I remember correctly, you received the award for being the "funniest lecturer" last year. My question to you is whether you appreciate having received the award for being the "best approachable lecturer" or the one for being the "funniest lecturer" more.

I am the proudest of having received the award for being the "best approachable lecturer". I appreciate having received the award for being the "funniest lecturer" too, but the other one has more added value for me. For both of them it holds that I do it unconsciously, it is just a part of me.

Lastly, I would like to ask you what your favorite holiday is?

My favorite holiday would be carnival.

### Bert & Ernie Questions

Bert or Ernie?  
Bert

Education or Research?  
Research

Tilburg or Stiens?  
Friesland

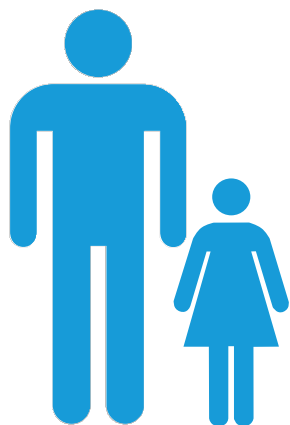
Students or Colleagues?  
Students

Restaurant or Cooking?  
Cooking

Stress or Boredom?  
Stress

Saint Nicholas or Santa Clause?  
Saint Nicholas





# The FABULOUS Baker

**On a drowsy Thursday evening, the 10th of October, Mike and I set course to a place very close to our beloved Tilburg, namely the city of Breda! After a short trip by train we met up with Anouk Claassen and her friendly father Richard who drove us to their lovely home, just a 10 minute drive away from Breda station.**

**Text by: Vince Dentener**

## A Tasty Welcome

Upon arriving at the elderly home of Anouk, the three of us were warmly welcomed by her mother, Monique, who had already prepared coffee, tea and some delicious pastries from Richard's bakery. These included the classic "appelflap" (English: Apple turnover) and Richard's specialty, homemade "herfstcake" (English: Autumn cake). With our mouths watering, we started what promised to be a very tasty interview.

## Once a Baker, Always a Baker

On the 24th of August 1959 Richard Claassen was born right here in Tilburg. He is the second youngest in the Claassen family sharing his home with three brothers and five sisters. After completing high school in Tilburg, Richard went on to attend the bakery school in Eindhoven. Upon completion, Richard worked at different bakeries for numerous years. It soon came apparent that

Richard had a talent for baking. In the first year of competing in the nationwide bakery competition in the "small breads" category, he finished second. This was not enough for the ever ambitious Richard and one year later they finished first! After this it was time for a fresh experience, so Richard set sail to the U.S.! His city of choice: Philadelphia, Pennsylvania. After one year of working there Richard apparently had enough of all the freshness, since he then returned home to eventually take over a bakery in 1987 in downtown Breda. It was at this time that the love story between Richard and Monique began; when Monique walked into the bakery, looking for a job. Richard hired her on the spot and together, stronger than ever, they went on to do some awesome baking. The encounter was love at first sight and so Richard and Monique married five years later in March of the year 1992. Like a true craftsman, Richard kept on baking. Nowadays he owns a chain of three bakeries in down town Breda, called "DikkeMik" which literally translates to "fat bread", but in local dialect, also stands for "a tight relationship between two people".

He spends his spare time with photography and playing golf, two of his greatest hobbies. The first of which is evident looking at all the Claassen's photo albums, which, in total, count 13. To recharge from

the busy baker life, twice a year Richard and Monique retreat to their cottage in Belek, Turkey, which they bought around 7 years ago. Belek is called the golf capital of Turkey so for Richard it was a logical choice. Anouk, her sister and brother try to accompany their parents once a year for a nice family vacation. Looking ahead Richard is quite satisfied and has everything he could wish for. He considers opening a fourth bakery should it cross his path, but for the time being, things are great just the way they are.

## The Story of a Lifetime

Anouk Claassen was born on the 22<sup>nd</sup> of February, 1993, in Breda. She was the first child of the Claassen family onto whom a brother, Joris, and a sister, Claire, followed. According to Monique she has always been a very easy child, growing up by the book and never gave them a hard time. This trend progressed as she got older. She did well in school, especially in the sciences. When asked where this talent might come from, Richard replies that it probably runs in the family, seeing that in high school, he also passed the sciences





quite easily. Anouk is actually not the only one who inherited this trait since, according to Anouk, her sister Claire might be even better in mathematics than she is. Still in 4 VWO at the time she amazingly solved an econometrics problem that Anouk was struggling with in her first bachelor year. Even now in VWO 6 she already attends some lectures at the TU in Eindhoven. Anouk is not at all jealous but rather very proud of her sister's achievements. They get along very well and also do a lot of things together, like JiuJutsu, one of Anouk's greatest hobbies. No one can accuse her for never trying, because before setting her sights on JiuJutsu, Anouk did ballet, gymnastics, hockey, golf, athletics, badminton and hockey in that order. The last of which Richard coached for nearly two years. She has always known what she wanted and is always very determined to achieve her goals. She used to save up these things called "Scooby Doo threads". One time she bought 99 of them, 33 for each of the siblings. Upon arriving home it turned out there were only 98. This of course was a very big problem and so she



**Anouk Claassen**

**AGE: 20**

**Began studies in 2011**



**Richard Claassen**

**AGE: 54**

**Residence: Breda**

left the house heading for Tilburg, it was quite difficult for Monique. She wanted her first born to stay home a little longer, especially because Tilburg is just a couple of miles away from Breda. Richard took it a little more down to earth, but both of them knew it was the right time for Anouk to fly from the nest. After a while it became apparent

"DikkeMik" in downtown Breda! Do not worry about missing it, because even though it refers to the Autumn, it is sold year round! •

## 'For the time being, things are great just the way they are'

made sure she got that final thread whatever it took! This determination is also present today in everything she does and got her to the place she is at today. Anouk probably inherited this trait from Richard, a fact for which he is, of course, very grateful.

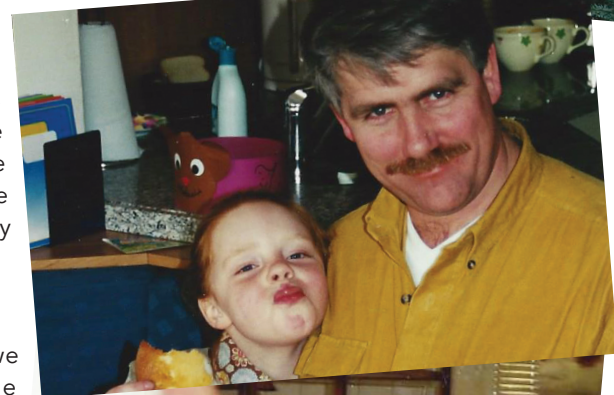
### Econometrics... wait what?

Her parents had no idea what the study Econometrics and Operations Research was and it took them forever to pronounce it right. Since Anouk always knew what she wanted, Richard and Monique never really interfered with her choice of studies. This choice would actually prove her most difficult one and so in August 2011 she finally made her decision. Even though it was made a bit late, it surely was not a rushed one and after she started, she felt right at home. When in her first year Anouk

to her parents that this was the perfect study for her, since it matched her talents very well. In ten years her parents expect her to have settled down and have a promising career ahead of her. Anouk agrees but does hope she will have done some work related traveling before that. Whatever the outcome, one thing is certain, Anouk will surely land on her feet!

### Wrapping Things Up.

After finishing the interview we stayed and chatted for a while and I notice that I still have not touched my deliciously looking homemade "herfstcake" at all! After eating it I can honestly say it tastes even better than it looks. So I encourage everyone with a sweet tooth to come and try this tasty pastry at





# Run Astrics, Run!



**Björn Floor**

**AGE: 19**

Began studies in 2012

The 'Hart van Brabantloop' all began when my alarm clock rang at 6.40, because the econometricians had to be present at 7 o'clock on the parking lot of the university to get a nice breakfast. We were participating with two teams in the race: the 'Competition team' and the 'Beerteam' (of which I was a member). After our breakfast we started with the race at 7.30 at the university campus.

Since I had to run in the second stage of the race, I did not have any time to watch the start of the race. I had to get into the car with Annick and Masum to get to the first switching point. Ashley would hand me her competition shirt there, which was by the way pretty difficult to put on, but after a struggle I finally managed to wear it. Now I could focus on my 7.4 km race, which was actually the first running race I ever participated in. I was, however, not alone while I was running, besides all the other participants Masum would cycle next to me on his bike to support and talk me to the finish. So eventually after 42 minutes and a little bit more I finished, which means I ran exactly 10.5 km per hour.

After I finished and had something to drink, Masum, Janinke and I got another ride by car to our next checkpoint. This time with Cleo as driver, where Masum had to run for 6.4 km. After some searching for switching point four, we managed to be there in time so Masum could start his part of the race. This time I would cycle next to Masum to support and talk to him. With a nice song playing on my mobile phone we had a nice conversation. Masum ran pretty fast after all and he managed to run on average over 14 km per hour.

Then I was with Masum and Annick in the car again, driving towards the finish for the last stage of the morning part of the race to pick up Erwin and Maarten. After we avoided some road breakups we got to the finish. However, after some searching we could not find Erwin and Maarten although they had already finished. When we checked

who informed us immediately that he could entertain you and your friends on a party the whole night with live music performances with as theme the 60', 70' music to jazz or whatever you wanted.

But we still needed the lost shirt for the 'competition team' else we would have a big problem. Luckily someone managed to get a new competition shirt from the race committee, so everything was solved in time.



the park 100 meters further, where in the afternoon the restart would take place, we luckily found Erwin and Maarten, so we could head to the station to go home. At least, we thought so. Once again we ran into some small problems, because the competition shirt of the 'beerteam' was torn. The shirt of the competition team was even lost. So after some panicking Maarten and I managed to fix our shirt with a safety-pin we got from a nice motorcycle-volunteer,

In the afternoon the restart was at 14.30, where the rest of runners would race against each other. After this afternoon race we would have another restart at 18.00, which was the last stage. In this last stage Erwin and I would cycle next to Pieter-Jan again. He eventually ran the 5 km in a respectable 17 minutes.

Eventually the 'competition team' finished 24th and the 'beerteam' 64th out of the 82 racing teams, so I think we did quite well.

After the race most of the participants went home quickly for a shower and to dress themselves. Then we went to 'Happy Italy', a very nice restaurant, where we ended the day with nice food and a beer. ●



# Live and

Text by: Jochem Bruijninx

# Let Die

To kick off the academic year and welcome new members to Asset | Econometrics, each year an introduction activity is organized where students can get to know one another through a range of fun activities. This year was no different.

After starting our year with the TOP-week, where we, the freshmen, were introduced to student life in Tilburg and a small group of students within our study, we are immediately guided into the first lectures, only 2 days after our TOP-week ended. Starting off on an early Monday morning, students tread through the hallway looking for familiar faces they met last week. How different was the introduction activity: all TOP-groups were mixed and spread out across new 'teams'. Now, everyone had at least a couple of familiar faces with them, along with a new set of people. The balance between new and familiar faces allowed for a great atmosphere in all teams. Said teams then had to 'battle' one another over the course of 7 activities that tested our qualities as special double-o agents: the activity was organized in a James Bond-theme!

The tasks saw us picking up women (collecting Barbie's, blindfolded), engaging in hot pursuit (a time trial with radio-controlled cars), finding

university and putting our wit to the test in a set of riddles (the final of which caused some confusion when a couple of teams were convinced their out-of-the-box solution would certainly have qualified as a work-around). For all the successes the teams achieved, they were then awarded a certain amount of points to reflect on their qualities as James Bond stand-ins. However, this wasn't yet quite enough to determine which team harbored the best set of replacements for the well-known British secret MI6-agent.

Having completed (or in some cases, attempted) the challenges of the day, the time had come for a final showdown between all eight teams. We walk to the park and find some stacks of crates and a couple of half-cut plastic bottles. As we wait for all teams to arrive (again, the final riddle is discussed - why turn



for the four best teams to analyze the challenge and create a tactic, building up tension for the final clash. The task is as follows: using the half-cut bottles, the teams have to figure out a way to collect a certain amount of water collected from the park's pond – no more, no less. When the amount is correct, they then step up to a small starting-line: using the crates, all need to cross a large distance without stepping off the crates. However; there may be no gaps between placed crates when moving, so space is scarce! Hilarity follows as people try not to lose their balance, any mistakes made being called out on the spot by other contestants. In the end, the fastest team was crowned the best set of international spies and received a small prize to celebrate their achievements.

We end the day at the sports center, not too far from the University. Here, we enjoy a barbeque along with the new people we met during the day while also listening to the stories our TOP-group members have experienced. All in all, it is safe to say that the day was a great success, fulfilling its goal of allowing people to get to know each other! •

## 'Hilarity follows as people try not to lose their balance'

our way through minefields, testing our poker-faces when drinking possibly poisoned drinks in front of another team trying to determine the contents of our drink (be careful - it could have been just water, but even vinegar was possible!), collecting environmental data around the

off a lamp when you can break it?) we wonder what this task will see us doing. When we are complete, the rankings so far are revealed and the teams are split in two sets of four, who will then contest against each other, starting with the four teams that performed worst – allowing



## THE PASSION OF... YANNICK JACOBS



# Drumming as a Way of Life

Text by: Maha Lharoui

**This is the passion of Yannick Jacobs, a 23 year old econometrician who did his bachelor in Amsterdam and who is currently following a master program in Operations Research here in Tilburg. He has been drumming for 14 years and his passion started when he was 4 years old. It currently feels like a second nature for him to drum. He listens to music every day to acquire inspiration. He can't play every day at home so he practices 6 hours a week, on Wednesdays from 20:00 to 23:00 and on Sundays from 12:00 to 15:00.**



**Yannick Jacobs**

**AGE: 23**

**Began studies in 2013  
(Master)**

In high school he started a band. As an assignment for his music class, he had to form a band to perform a song. It turned out to be so much fun they decided to make it happen for real. The band evolved and reformed over time to start "Two and a Half Each" in 2006. They split up in 2011. Three of the former

very proud of this achievement.

When asked how he manages his passion and current life, Yannick says he has enough time to combine study and passion. He even has some spare time left. Every time he plays a song, he plays it different from the last. He plays the song spontaneously according to how

## 'A band is the dysfunctional family that you choose'

band members started a new band in 2012, called "Five Lane Highway", the band Yannick currently plays in. The band currently consists of 2 girls and 3 boys. The band plays a fusion of Rock, Metal and Pop trends. When asked about the story behind such original names, Yannick amusingly tells me that "Two and a Half Each" comes from the fact that two band members were girls, two were boys and one person was bisexual, while for "Five Lane Highway", the five lanes of a highway turned horizontally represent a symbol of the music staff. The band's rehearsal takes place twice a week. Once a week they use headphones to silently rehearse at a band member's home. They also rehearse at the "Odeon" youth center in Veldhoven, where they rent a rehearsal room once a week.

When a passion is so great, you probably want to show it to the world, and so, they have entered different competitions. One of them was called "Break Out" in which they won the audience and jury awards against four other bands. Yannick is

he feels at that moment. He tries to innovate in the way he plays songs and, in such a way, to keep challenging himself. Through good planning and dedication he tries to never skip a rehearsal, nor skip any other activity to rehearse. His commitment to his band is really important, so he knows that when he is planning his events, rehearsal time is an appointment that never gets skipped, only when someone is ill. But sometimes they still rehearse in that case. He might cancel other events for his passion, but he would definitely never skip practicing his passion for something else.

Why does Yannick like drumming so much? He uses his passion to clear his head and get in sort of a trance. According to him, it's a way to "clear the mind". It also works great for when you are angry and want to drum out the frustrations. Everything else fades away after he plays the drums, he forgets what bothers him and even obtains a new perspective regarding his worries. He loves the fact that he can share his emotions through his music and make people



feel these emotions when they listen to it. The lyrics of the band's songs are based on real events and real emotions. I personally listened to the songs, and I got exactly that same impression, this is real music.

The most memorable memory about his passion is when he, with his band, won the 'Break Out' competition. They had solely positive reviews and comments. He says that performing on stage feels awesome, because of the adrenaline rush and letting the music carry him. Regarding less fun memories, Yannick quotes his guitar player: "A band is the dysfunctional family that you choose". A band feels like a family, but sometimes there can be friction and difference in opinions. In the end, everybody needs to make concessions because they really want to make it work. Each of them knows what the other is thinking and feeling. They operate as one, that's what keeps them going as a group. Being in a band taught him some valuable skills in cooperation, creativity, dealing with setbacks and determination. He notices that creativity in music makes room for more creativity in studies and problem-solving in general.

When it comes to fans, Yannick himself is a big fan of 'Linkin Park' because their music jumpstarted his musical taste. He also likes a relatively underground band called 'Hale storm' because their music sounds like the kind of music his band prefers to play. They are a great source of inspiration. From another point of view, most of their

own fans are acquaintances, friends or family, but they frequently get comments from fans from over the globe that are following them and love their music as well. They have currently been performing mainly in the Netherlands. But they would love to play and be known on an international level.

Concerning his passion career wise, Yannick's dream is to grow professionally. It would be great if his band would be signing contracts and making a living off their music. His passion runs so deeply within that he would even drop his studies immediately and pack his bags for good if this would mean that his professional dream would come true. This implicitly answered my next question: "if you had to choose between studies and music, what would be your choice". His answer is definitely music. He would love it if they get a contract in the U.S. or anywhere else.

I almost forgot to ask him how he financially manages to live his passion. Surprisingly, he says that he spends a lot, especially for the maintenance of his drum set. The drum set alone is very expensive. Drum sticks cost 13 euro a pair, and those break really easily. He usually breaks 10 pairs on average per year – what a heavy player! Other expenses include rent for the youth center where they rehearse and gas for transportation. Next to this, recording songs can be very costly. The recording studio charges per hour and for their last album, it took



them an entire weekend to record just three songs! They have a group bank account in which they deposit mutual funds. He estimates his passion costs him around 750 euro each year. They do get paid for their performances, but unfortunately this is not enough to cover all the expenses.

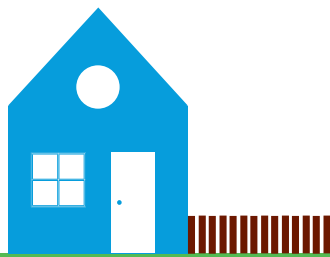
The band life is hard because they have to arrange everything by themselves; gigs, publicity and so on. It is a tough career. Social media really comes in handy regarding this aspect. The band definitely uses the media for advertisement. They are currently focusing on new songs but they have already published an E.P.! The E.P. is called "Shifting Gears" and can be found on Spotify or Google Play Music and bought on iTunes. Follow them on Facebook and Twitter – "@ Five Lane Highway" or check out [www.fivelanehighway.nl](http://www.fivelanehighway.nl)!

Finally, his advice to all starters is: "Keep Going! Do not let setbacks hold you back. Keep going, put in the effort and do not look back!"

It was a fun interview. I learned a lot regarding music, and it reminded me of how awesome it is to do something you actually enjoy. We wish Yannick the best of luck! •







## A Female Econometricians House

After an interactive Introduction Mathematical Economics class about auctioning wine, my fellow committee member Jelle and I accompanied Lotte van Bakel to her new home at the Mangrovestraat. Over there, Juul Kooijmans and Vera van der Lelij, who are also EOR students, are already eagerly waiting for our arrival, for they have loads of stories to tell about their new home situation.

**Text by: Ennia Suijkerbuijk**

While we cycle through the neighborhood, we realize it has a perfect location: it is only a five minute (bike) ride to the university and only a couple of minutes more to get to the Central Station and city center. But despite of how ideal this may seem for students, we only see elderly people and parents with young children around. Apparently, this is not a common place for students to live. Of course now we start to wonder, how did our econometricians end up here? As it turns out, all three of them have completely different stories.

### Finding Their Own Place

Lotte: "I started looking for a room in Tilburg around April this year. Even though I was not looking for anything extraordinary big, cheap or special, I just could not find myself a room. I must have been to at least 15 open house evenings. At some point, I had four of them in one evening."

While Lotte was struggling to find herself a room, Juul simply used Vera's room as her own: "I practically lived there. Vera even had a spare key made especially for me, so I could go there even when she was not at home."

Living with two persons in a room of only 8m<sup>2</sup> is not that great though, and so Juul started looking for her own room. When she had actually found one, her parents suddenly told her that they were thinking about buying

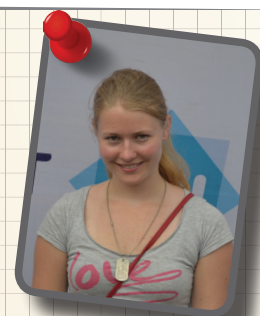
an apartment for Juul to live in. At the beginning of this summer, so after two years of studying in Tilburg and living in Schijndel (at least officially), the deal was sealed and the Mangrovestreet 9 was actually theirs.

Of course, Vera preferred living in a larger room and together with her friend over living in her old room and so she decided to move in as well. Now the girls only needed one more roommate to complete the house, for which they organized an open house evening.

Lotte, getting really tired of not being able to find a room, was about to give up hope when she rang the doorbell at the Mangrovestreet. But even though the three girls did not know each other all that well, they immediately headed off and that same evening the decision was made that Lotte would be their new housemate.

### Living With Econometricians

Once we enter their house, we get a short tour through the house. Besides the three bedrooms of the girls, there is



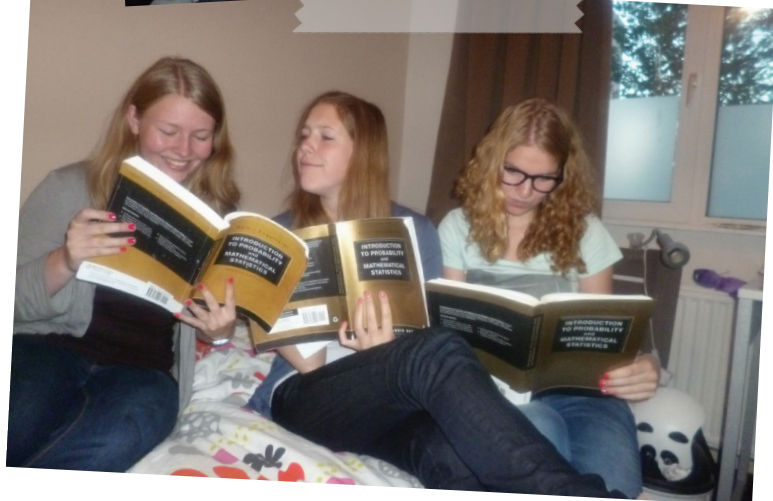
**Lotte van Bakel**

**AGE: 19**

**Address:**

**Mangrovestraat 31**

**Rent: € 320**







also a nice living room, clean bathroom and cozy kitchen. Furthermore, they also have two balconies. Juul: "Our balconies are great! We already spent a couple of evenings on them this summer."

While Vera is busy preparing dinner, we question Lotte and Juul some more about what it is like to live in a house with three (female) econometricians. Lotte tells us that it is rather beneficial to her, because Vera and Juul can help her with tough courses, since they started their studies one year before Lotte did. Moreover, all of them still need the second-year course Statistics, with which they can help and motivate each other. However, they are not always well-behaving, hard-studying students. For instance, they already had a conflict with their neighbor, even though they were not aware of this themselves at first.

The apartment building they live in is very noise sensitive and every word that is said in the staircase can be heard by its inhabitants. Now during the TOP-week of 2013, both Vera and Juul had been somewhat loud while coming home after going out, thereby enlarging the anger of the 'Boze Buurman'. This resulted in a wrathful letter from their neighbor, which he sent to the owners of the building, after which they sent it to the parents of Juul. So when Juul came home in Schijndel, she suddenly had two upset parents who wanted to know what she had been up to the past few weeks. The girls then decided to ask their neighbor over for a nice visit to sort things out.

However, this went a little too well, which had as consequence that their neighbor did not want to leave anymore... It took them about half an hour to end the conflict and about an hour longer to get rid of him again.

#### Fresh Inhabitants

While having dinner, it becomes clear that the girls really have not been living there for a long period. For instance, we eat with the five of us on garden furniture and the living room itself is still starkly furnished. However, there is already a small collection of alcoholic liquors bottles, which is displayed next to a smiling garden gnome. While the living room might not be very well decorated yet, the rooms of the girls are. All around, shoes, notebooks and bottles of nail polish can be found.

But also after dinner, which consisted of pasta and some delicious homemade brownies, it is again noticeable that the students have not completely settled down yet. At a certain moment, Vera even has to ask how to change between the television extensions. Together with Juul and Lotte though, she manages to figure it out, after which we all play a game of Mario Kart. When Lotte also starts giving us beer and homemade 'stroopwafel'-pie, the evening starts to feel more like a party than like an interview.

#### House Activities

While Jelle and I are enjoying our pie, which was truly one of the best I have ever

tasted, we get to hear some more stories from the Mangrove ladies. For instance, we learn that they started watching shows such as 'Achter gesloten deuren' and 'Overspel in de liefde', together about a month ago, until they could not bear the bad acting anymore. From that moment onwards, they started spending their time on other things, for instance on 'Topgirls'. Topgirls is a game in which the main objective is to shop, dress, go clubbing and flirt with hot guys. Not very mature, and extremely feminine indeed. However, watching soccer is also one of their interests and hence we spend the resuming part of the evening watching a Champions League game. For those of you interested, it was Ajax vs. AC Milan, which was a somewhat disappointing and frustrating game. The value of entertainment though, was increased by Vera's fear of yellow cards being handed out. Not because she hates offenses, but because she participates in the CL pool of Asset I Econometrics and she filled in that only 10 cards would be handed out in 16 games, which frankly is not all that much to be fair. In fact, the correct answer turned out to be 56 yellow cards...

After finishing our beers, Jelle and I headed out for the evening. We would very much like to thank Juul, Lotte and Vera for preparing such a nice dinner, such lovely desserts and of course for all their great stories. It has been a blast! ●





# Week to Remember

**A few weeks ago I joined the TOP-week of Tilburg University. It was a very nice week and I met a lot of people. We learned some things, but above all we had a lot of fun that week and made friends for life. We started on Monday and while this day was a little boring because it was a serious day, the rest of the week was just about having fun and partying like the Dutch.**

It was the 19th of August and something was going to start. Together with many other students I went to the Spoorzone to register and find my TOP-group with whom I was going to have a very nice week. After waiting outside for a while, we could finally go inside to a desk where they told us to which group we would belong for the whole week. I was part of Yellow 22 and had to find where I had to go next. I found my 'mothers' quickly and more and more people joined us. We had to go to the university where we played a game to learn the names of the people in our group. We had to throw keys to another person and say his/her name. For some people it was difficult to remember all of the names, but at least everybody knew all names at the end of the week. After this game there was another game with colored powder. We had to throw it in the air and you would be colored after the game. My group

had missed the game because we were too late. Too bad, because I think it would have been a lot of fun.

The first day was about our study, the university and other serious things. So, after the game, we went inside and somebody told us about the campus and the school of Economics and Management, to which our study belongs. Another person told us about Asset; what they do and that we could subscribe later that day and also become an active member. After a served lunch we had to listen to a talk about our study. It was a little bit like the talk at the open days. It was a lot of information, most of which we already knew. At the building of Asset, we all subscribed to be an active or inactive member, except for the people who already did it on the internet before coming to the TOP-week. That afternoon we also got information about Blackboard, how to use it and how to sign up for exams and courses.

**'It is too bad when you are at a nice place and you cannot stay long'**

After this, we left the university to go back to the Spoorzone because a barbeque was waiting for us. While sitting outside on the ground, we enjoyed the meal, while inside the official opening was going to start. They taught us the TOP-dance, but it was very hot inside, too hot. Therefore my group, Yellow 22, went to 'De Boekanier' where they

had a Traffic Lights party. We stayed there for the whole evening and that was the real start of a good week. The night was short, but almost everybody was present again the next day.

On Monday we all had received shirts of 'De Boekanier' where we would go for breakfast every morning. This was the first morning with breakfast at 'De Boekanier'. We could not only get bread with cheese or ham and orange juice, but also rolls with sausages. A hypnosis show was on the program and everybody could join or just watch the show. The man was very good. The people who were hypnotized did all things he said they had to do. It was fascinating to see. Later I heard that the people could not believe themselves doing all these things, but it just happened.

That afternoon we went to the TOP-festival which was a market where all kinds of associations were represented. Also some companies which are useful for students had a stand. There was a lot to see and hear and we all agreed that there are too many possible things to do in your student time to do all of them. We clearly had to choose what we would really like to do. Most of the people got a lot of information at the market and I think many of them can now make a decision on what to do this year.

We went to T.S.C. St. Olof where they showed us their building and we joined the beer race. We could not stay for pizza because we had

to go to a small beer cantus at 'De Boekanier'. So we went to the city center to eat pizza, wok-to-go or McDonald's. It was our first beer cantus that evening and we all liked it. Everybody was singing out loud and drank a lot of beer. We stayed at 'De Boekanier' that night where Asset organized a party with 400 liters of free beer.





**Irmgard Oude Alink**

**AGE: 18**

**Began studies in 2013**

On Wednesday we started again at 'De Boekanier' with breakfast. This time there were hamburgers with onions. Junk food is the best medicine to a hangover apparently and thus everybody ate a hamburger.

After breakfast, we went to the Leijpark by bike to play a lot of games. Everybody could choose for themselves what they wanted to do because there were a lot of different games and nothing was required. At a stand from the dance association you could guess how many pens they put in a pot. We guessed because we could win some beer and we were very confident about our answer, but they have never called us to say we had won the beer. We also did a run where we

could win a crate of beer, but we did not win that one either. You could only win things at the games, but there were also a lot of games just for fun. Many of the games involved water and fortunately the weather was nice.

In the afternoon we also had to make a flag for our TOP-group for the beer cantus on Thursday. Because we all got dwarf hats on Monday (we were the dwarfs and our mums were Snow White), we painted a dwarf with beer in his one hand and a peace sign on the other hand. This flag was fun to make. Later that afternoon we went to T.S.R. Vidar where they showed us their place, which was very nice because of the lake outside; it is situated in the middle of nature. We could row on the lake after a tour through the building. For dinner we had lasagna which was very nice! That evening there was a good party outside with a band and ultra-violet paint. Around midnight we went back to the center of Tilburg and went to 'Café Bolle' to end the party of that night there. I have to say, this was a very good day!

Thursday morning we had bacon and eggs for breakfast at 'De Boekanier'. We went to the sports center that morning where we could see which sports we could practice and we could also play ourselves, but everybody was still sleepy so we were not exercising very well. After we had lunch, we went to the Spoorzone for the big Jupiler beer Cantus with all people who participated in the TOP-week. It was too bad that we

had to stay at the table and could not dance, but singing the songs and drinking was again fun! At a particular moment, people began to throw beer at each other and that was the sign to break all the rules, dance on the tables and have a big party. It did not last long, but that did not matter. We went home to take a shower and change clothes because the beer was everywhere. Afterwards, we went to I\*ESN for dinner. After dinner we first partied at Olof before starting with the Pub Crawl. I think this was nice, but it is too bad when you are at a nice place and you cannot stay long, because there are some other places where you have to go.

On Friday we could sleep a little longer. We did not have breakfast at 'De Boekanier' that morning and we went to the swimming pool at about 12.00 p.m. It was a nice day at the swimming pool to relax, swim and sunbathe. For dinner, we went to T.S.V. Plato and in the evening to the TOP final party at Spoorzone. Mainly because we still had a lot of coins for drinks. After the party, a lot of people went to Vidar but I went home because I had to work the day after; normal life goes on. It was a week I will never forget and I think I am not the only one who will remember this week. ●





# Are You Ready to Throw the Towel?

At the end of last academic year, all recipients of this magazine were invited to enter the summer photo contest. The task was to take a photo while interacting with the official Asset I Econometrics towel. After we received various entries it was time to choose a winner! Together with last year's Editor-in-Chief, it was decided that Esmee Lucassen and Eline Bulsink are the proud winners of this year's contest. Apart from standing in a beautiful location in Madrid they also came up with a nice way to interact with the towel. Congratulations on your victory, please come by to pick up a pie or a crate of beer.







**WINNER!**





# Quatsch!

**Janneke van Schijndel:** "Statistics wordt al eeuwenlang door Einstein gegeven."

**Denise Ligthart:** "Mijn fiets heeft een vet grote roze bagagedrager met spandeksels. O nee, hoe heten die dingen ook al weer? Snelbinders."

**Willem Jongen:** "Ik zal jullie eens iets over vrouwen vertellen."

**Suzanne Vissers:** "Ken je Treble van dat liedje Ramaganana? Die dragen ook altijd blote voeten."

**Joep Thijssen:** "De meningen over mijn nieuwe kapsel zijn verdeeld." **Ashley Beringer:** "Wie vindt het dan wel leuk?"

**Janneke van Schijndel nadat ze een reclame van 'Second Love' hoort:** "Pfff, Second Love, ik moet eerst nog een eerste zien te vinden."

**Daniëlle van Dalen:** "Ik ben naar Siófok, een badplaats in Hongarije, geweest." **Floris van Loo:** "Maar Hongarije ligt toch helemaal niet aan zee?" **Daniëlle:** "Ja, daar kwam ik toen ook achter."

**Willem Jongen:** "Suzanne weet dat ze een vrouw is, tenminste ik denk dat ze dat weet."

**Senna Jansing:** "Dit is echt plaatsvervangende rotzooi."

## Quatsch?

Over the past few months, the editorial staff of Nekst received many quotes that relate to the study of Econometrics and to the activities organized by Asset | Econometrics. Therefore, we present to you a selection of some striking and funny quotes! Please mail all remarkable quotes you have heard to [Nekst@Asset-Econometrics.nl](mailto:Nekst@Asset-Econometrics.nl)!





# PUZZLE

**After a long summer, keeping up your social life, relaxing and lying in the sun, it is again time to flex you brains. For this purpose Nekst provides you with a puzzle about obtaining a free ticket to the cinema. So grab a pen and paper and enjoy yourself with solving this puzzle.**

In front of a local cinema a lot of people are waiting until the ticket office opens. As soon as the ticket office opens, the manager announces a special promotion. The first customer in the line who has the same birthday as a customer who has bought a ticket before him will get his ticket for free. He will, however, only give one customer a free ticket by means of this promotion.

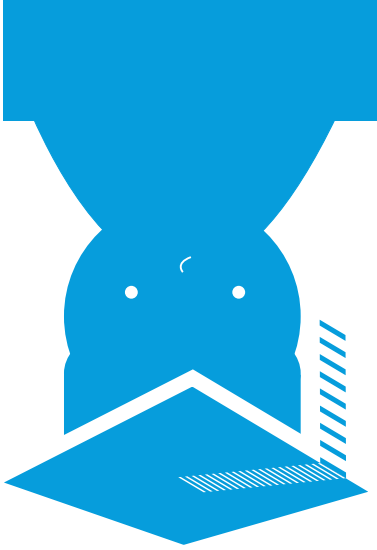
Suppose you can decide, by moving smart, on which position in the line you will be at the start. The question is to determine the optimal spot to choose, when trying to maximize your chance of getting a free ticket.

Please send your solution to [Nekst@Asset-Econometrics.nl](mailto:Nekst@Asset-Econometrics.nl) before the 29<sup>th</sup> of November. A crate of beer or a delicious pie, whichever the winner prefers, will be waiting for whoever has the best (partial) solution. Please note that as before, every recipient of this magazine is eligible to send in their solution, so members of the department are invited to participate as well. Good luck!



**Lars van Heijst** is the winner of the previous puzzle. As a reward, he can come and pick up a crate of beer or a pie at room E1.10. The solution of the previous puzzle was EDACB.





# Asset | Econometrics congratulates...

Name: Willemijn van den Berg  
Title: Dynamic Decision of Opening of Service Parts Locations for Philips Healthcare in China  
Supervisors: Dr. R.C.M. Brekelmans, Dr.ir. J. Ashayeri

Name: Harmen Boersma  
Title: Global Optimization in Refinery Planning  
Supervisors: Prof.dr.ir. D. den Hertog, Dr.ir. J. Ashayeri

Name: Javier Clavijo  
Title: Risk Capital Allocation for a Guarantee Fund in a Central Counterparty Clearing House  
Supervisors: Dr. M.A. Stadje, Prof.dr. A.M.B. De Waegenaere

Name: Roland Daamen  
Title: Heuristic Methods for the Design of Edge Disjoint Circuits.  
Supervisors: Prof.dr.ir. E.R. van Dam, Dr.ir.ing. M.J.P. Peeters

Name: Timo Deist  
Title: Fast Inverse Planning for HDR Prostate Brachytherapy  
Supervisors: Prof.dr.ir. D. den Hertog, B. Gorissen MSc.

Name: Mark van Doorn  
Title: Subsidizing Small Hydropower Projects: A Real Option Evaluation  
Supervisors: Prof.dr. P.M. Kort, Dr. R.J. Mahieu

Name: Joyce van der Eerden  
Title: Long-Term Guarantees Implications of the Matching Adjustment  
Supervisors: Dr. G. Nieuwenhuis, Prof.dr. J.M. Schumacher

Name: Teun Franssen  
Title: The Business Case of Binnenstadservice  
Supervisors: Prof.dr. G. Kant, S. Huijink MSc,

Name: M. Gutierrez Granada  
Title: A Time-Definite Tactical Network Design Approach for Express Service Carriers  
Supervisors: Prof.dr.ir. H.A. Fleuren, Dr.ir.ing. M.J.P. Peeters

Name: Jakub Hajda  
Title: Liquidity Risk in Corporate Bond Returns  
Supervisors: Dr. F.C. Drost, Dr. R.J. Mahieu

Name: Tim Hanssen  
Title: Electric Transport: Placing charging points along highways in the Netherlands in 2020  
Supervisors: Prof.dr.ir. W.H. Haemers, Drs. J.J.M. Braat

Name: Joep Hendriks  
Title: Uncertainty and Stepwise Investment in a Duopoly  
Supervisors: Prof.dr. P.M. Kort, Dr. K.J.M. Huisman

Name: Anna Jaworska  
Title: Conversion Attribution: The Role of Online Ad Exposure in Purchase Decision  
Supervisors: E.C. Ozinga, Dr.T.J. Klein

Name: Dirk-Jan Kernkamp  
Title: Optimization of Large Experimental Designs for Choice Experiments  
Supervisors: Prof.dr.ir. E.R. van Dam, Dr. P. Cizek

Name: Safia Khan  
Title: A Quantile Regression Analysis of the Conditional Female Wage Distribution in Post-Apartheid South Africa  
Supervisors: Dr. P. Cizek, Dr. M. Salm

Name: Marieke van Cleef  
Title: Towards a Sustainable and Fair Real Pension Contract  
Supervisors: Prof.dr. J.M. Schumacher, Dr. S.J. Sender

Name: Yun-Ping Kuo  
Title: Determinants of Smoking Cessation  
Supervisors: Dr. M. Salm, Dr. P. Cizek

Name: Bernardas Kuodzevicius  
Title: The Use of Antidepressants: The Effect of FDA Warnings on Labor Force Participation  
Supervisors: Dr. M. Salm, Dr. B.A. Vollaard

Name: Zhen Li  
Title: Constrained and Unconstrained Optimal Risk Sharing under Various Risk Specifications  
Supervisors: Prof.dr. J.M. Schumacher, Prof.dr. A.M.B. De Waegenaere

Name: David Lopez Cobides  
Title: Pricing in the Dutch Electricity Market using a Mean Reverting Jump Diffusion Stochastic Model with Seasonality  
Supervisors: Dr. M.A. Stadje, Dr. R. van den Akker



Name: Nicole de Lugt  
Supervisors: Prof.dr.ir. W.H. Haemers, Dr. R.C.M. Brekelmans

Name: Veronica Marotta  
Title: Longevity Probabilities and Claiming Social Security Benefits  
Supervisors: Dr. M. Salm, Dr. J. Binswanger

Name: Ana Martinovici  
Title: How Consumer Sentiment and Attitudes Towards Morality are Related over Time: Findings from a Parallel Latent Growth Model  
Supervisors: Prof.dr. A.H.O. van Soest, Prof.dr. F.G.M. Pieters

Name: Maarten Meeuwis  
Title: The Impact of Stochastic Interest Rates in a Defined Contribution Pension Scheme  
Supervisors: Prof.dr. B. Melenberg, Dr. R.J. Mahieu

Name: Jeroen Moonen (ORMS)  
Title: A Semiparametric Approach to Bermudan Option Pricing in Operations Research  
Supervisors: Dr. J. Vera, Dr. R.J. Mahieu

Name: Jeroen Moonen (QFAS)  
Title: Carry On  
Supervisors: Dr. R.J. Mahieu, Prof.dr. B. Melenberg

Name: Joep Olde Juninck  
Title: Efficiently Solving Large-Scale VRP Instances Using Static Move Descriptors  
Supervisors: Prof.dr. G. Kant, Dr. J. Vera

Name: Pieter Platteel  
Title: Capital Decumulation Strategies for Retirees  
Supervisors: Prof.dr. B. Melenberg, Prof.dr. J.M. Schumacher

Name: Wouter Rijdsdijk  
Title: A Comparative Study on the Impact of Mortality Trend Risk in a Solvency 2 Framework  
Supervisors: Prof.dr. A.M.B. De Waegenaere, Prof.dr. B. Melenberg

Name: Maartje de Ronde  
Title: Optimal Deployment of Eco-Combinations in Freight Transport  
Supervisors: Prof.dr. G. Kant, Prof.dr.ir. D. den Hertog

Name: Frans de Ruiter  
Title: Adjustable Robust Optimization Based on Inexact Information  
Supervisors: Dr. R.C.M. Brekelmans, Prof.dr.ir. D. den Hertog

Name: Slomo-Makis Taragan  
Title: Demand Chain Management at Nike EHQ: A case study in Apparel Industry  
Supervisors: Dr.ir. J. Ashayeri, Dr. R.C.M. Brekelmans

Name: Lisan de Vries  
Title: Simulating a Multi-Level Picker-to-Part Picking Warehouse  
Supervisors: Dr.ir. J. Ashayeri, Dr. R.C.M. Brekelmans

Name: Yuhan Yang  
Title: Asset Pricing in the Shanghai Stock Exchange: On the Validity of Factor Models  
Supervisors: Prof.dr. B. Melenberg, Prof.dr. A.H.O. van Soest

Name: Yeqiu Zheng  
Title: Monopoly's Entry and Exit Strategies Under Uncertainty  
Supervisors: Prof.dr. P.M. Kort, H.J. Boonman MSc.

Name: Nienke van Zoggel  
Title: Internal Transportation Optimization of Hospitals  
Supervisors: Dr.ir.ing. M.J.P. Peeters, Prof.dr.ir. H.A. Fleuren

Name: Huib van Zundert  
Title: Two-Machine Sequencing Games  
Supervisors: Prof.dr. P.E.M. Borm, Dr M. Quant, Dr. J. Kleppe

**...on obtaining their  
Master's degree.**



# Agenda

## Autumn 2013



### Freshmen Activity

Thursday November 7

This year we will organize a pool competition for all freshmen students. We start the evening at 18.00 hours with a delicious dinner. This activity is a great opportunity to get to know your fellow freshmen students better!

### Active Members' Day

Friday November 15

This day is organized to thank our active members for their hard work. The program of this day will be kept secret, but we will make sure it is a great activity. In former years we have cycled through caves, made bonbons and climbed trees.

### Finance Expedition

Wednesday November 20 – Friday November 22

During this three day lasting event, a selected group of students will visit five interesting financial companies which are located in the Randstad. The companies will organize cases and presentations for the participants. Furthermore, they will have lunch and dinner together.

### Asset Gala

Thursday November 21

A few weeks before Christmas the traditional Asset Gala takes place. Put on your best tuxedo or a nice dress and enjoy this luxurious evening.

### St. Nicholas Drink

Tuesday November 26

On this evening we will have a drink in Café van Horen Zeggen. If we are lucky, St. Nicholas will visit us this evening and maybe bring some presents with him for a couple of our attending members.

### Orientation Day

Thursday November 28

### Pre-Lustrum Party

Thursday December 19

Together with the three other lustrum celebrating Asset departments, namely Accounting & Finance, Economics and SBIT, we will organize a pre-lustrum party at Café Bolle. After your first exams, this is a great moment to look forward to the lustrum week together.

In the afternoon we will organize cases and presentations for students of all different study phases. In the evening the Master Information Evening of Tilburg University will take place.





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DIERNLOT**



**TOWERS  
WATSON**