

Swell!

Juni 2018 Volume 39 Number 3

Port Betaald
Port Payé
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From the editors

Dear Members,

The last months we have been confronted by weather extremes, colds in February and March and un-Dutch heats in April and May. Also Het Waterbouwdispuut has experienced a period full of extremes. Peaks have been the Hydraulic Dinner 2 and the incredible Symposium, troughs there haven't been many actually...

We hope that this Swell will be another peak in this period. It is amongst others filled with an interview with our brand new professor about his, sometimes peculiar, hobbies, reports of two company cases at our Primary Partners and summaries of the wonderful events that have been organized over the past months. Furthermore, to add a smile to the faces of everyone that longs for summer, this Swell contains a page filled with Hydraulic Jokes.

This will be the last Swell this college year. The next edition can be expected in the fall. For now, enjoy the weather, each other and this magazine and see you back this autumn!

Editors of the Swell,
Marlein Geraeds & Servaas Kievits



The editors: Servaas Kievits & Marlein Geraeds

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From the president | *Focco Vons*

Dear members of 'Het Waterbouwdispuut',



Summer is coming! In just a few weeks we have our last exams and then we can finally enjoy our two months holiday. Even in the coming holidays 'Het Waterbouwdispuut' will not take a break. This holiday we will leave for a study trip to Shanghai! With 20 students we leave the 18th of August for almost two weeks. The organisation is almost completed and it's going to be two fantastic hydraulic weeks with a mixture of culture and hydraulic highlights.

The beginning of the holidays is the end of this hydraulic academic year. I think that I can speak for the whole board of 'Het Waterbouwdispuut' if I say that it was a very busy, but very fun year. A year with lots of interesting hydraulic activities: we have had two great master communities, the hydraulic BBQ at the start of the academic year (next will be in September!), the hydraulic coffee with the students and teachers, the MEX to Lisbon, two excellent hydraulic dinners, a lot of lunch lectures and an outstanding symposium!

Also, in this year, we launched a new website! It took a lot of effort and time, but the result is magnificent. The URL has not changed so go to www.waterbouwdispuut.nl to see this masterpiece. On our website you can find all our activities, partners, newflashes, you can sign up for the association, find yourself a job, master thesis or internship and much more! Of course, you can also read this Swell in digital format there!

At the end of every academic year, we organize a barbecue for all the master students and professors to celebrate the last days of the academic year. So join us all on the **5th of July** at CiTG! Unfortunately, the end of the academic year also implies another board change. That means this is my last 'From the President' already. Therefore, I would like to thank all the readers of our magazine. I sincerely hope you will enjoy reading this Swell! And to the new board members of 'Het Waterbouwdispuut': enjoy the fantastic hydraulic years you have ahead of you!

See you water!!

Focco Vons
President of 'Het Waterbouwdispuut'

From the president

Meet the professor: *Mark van Koningsveld*

Hi Mark! Great that we can interview for this Swell! First, give us a small introduction about yourself. Who is Mark van Koningsveld?

I have not studied at the TU Delft myself but in Twente. I have done Civil Engineering & Management, which was a relatively new study in those days. I did look in Delft though, but I've ultimately chosen for Twente. In 1998 I graduated there under the wings of Huib de Vriend, who was also a professor in Delft. At the point of graduating he approached me to do a PhD but I wanted to do this partly with a company so I joined the Waterbouwkundig Laboratorium, which is now known as Deltares. Some months later Huib de Vriend also came into service there so I didn't even have to go to Twente any longer as my meetings now also took place in Delft. During my PhD I partly started working for the Waterbouwkundig Laboratorium and after my graduation I also gained a function at the TU Delft. So since '98 I've basically hung around Deltares and the TU Delft until 2008, when I moved to Van Oord. Apparently I do everything in periods of 10 years as now, in 2018, I've joined the TU Delft once more! During my time at Deltares I was involved in the 'Building with Nature'-program and I've contributed to the Guidelines and data management so from there I was approached by Van Oord. As they had been an important sponsor of the 'Building with Nature'-program, I have been very active at Van Oord in the area of Environmental Engineering with implementing 'Building with Nature'-techniques. A different hobby of me is working with data and simulation. That might be a result of my time at Deltares where I did a lot with data and modelling.

Were you then already involved with Ports and Waterways?

In my time at the Waterbouwkundig Laboratorium I was more into Coastal Safety and Marine Coastal Management which always involved data analysis to see where most erosion was expected etc. There I also developed the Open Earth philosophy to which many Matlab- and Python-tools are connected. That program that I have initiated with others, is now run by Deltares. In 2012 we even won the Dutch Data

**Meet the professor:** *Mark van Koningsveld*

Award for that which was a nice acknowledgement. So those two things, 'Building with Nature & Infrastructure' and 'Data & Simulation' are two ongoing themes in my professional life. At Van Oord that Coastal Management suddenly went to Offshore Wind and Ports & Waterways, and later I also joined a data management group. That grew further into my position in R&D management where I was in charge of innovations for the entire company, which involves a lot of sustainability. So when the opportunity of becoming a professor for Ports & Waterways opened up I decided to apply, as I recognize many things that I enjoy in life: economic optimization and design, linked to sustainability and digitalization.

What part of your current function are you most looking forward to?

Well, I look forward to working with students and making them think about these kind of topics. Also with Building with Nature, that really is an important theme and I have the feeling that the people we are educating now will pull the strings in some years. The other aspect is that I really would like to develop research about data and simulation and those sustainability-topics in the Ports & Waterways domain. I've been able to do that kind of research at Van Oord but not entirely in the way that is possible here. At Deltares I have also had that opportunity but one often sees that research at a university has more depth, which I am certainly looking forward to.

What do you see as your biggest challenge in your work as professor Ports & Waterways?

I think it will be a very nice challenge to make Hydraulic Engineering in general but also the Ports & Waterways discipline a more data-driven research domain. There is a lot happening with data but we are far from being data-driven so we can still make large steps in that. It is also very interesting that this chair is sponsored by SmartPort and the port operator which share 'sustainability' and 'digitalization' as their strategic goals for the coming years. That aligns perfectly and shows that students have to develop in this area: they have to improve on their programming skills and the competences that are asked in the data-science domain.

Do you have any idea where to datascience can lead? What sort of developments do you see in this area in the near future?

Well, a popular subject today is automation of course. When navigation changes more towards autonomous, there will be a very interesting transition. What is navigation inside a port going to look like, and how will these autonomous ships

Meet the professor: *Mark van Koningsveld*

cooperate with the non-autonomous ships? How will the traffic support deal with those differences and what will be the right way to provide people with the best information? All these questions will have answers in the future, but working towards these answers will be very interesting.

Why have you chosen to apply for this function?

During my PhD I did research on how to connect specialist knowledge to the demands of the users. So, 'to what extent is it possible to make practical decisions regarding research' was one of the main questions I tried to answer. In my opinion, a department where these kind of practical questions play a big role is Ports & Waterways. Many different interests and stakeholders challenge the port to continuously change their strategy and make important decisions. Of course, they try to base these on research and analysis. Important questions that will always be present amongst port operators are 'what will the future do for our port' and, 'how can we respond to climate change'. For these kinds of questions, it is desired to have answers based on data and research, but how do we involve all interests? Specially in Ports & Waterways the role of practical decisions based on research is very important.

So you have not said goodbye to that research of years ago?

No definitely not! It's more present-day than ever!

Finally, what can we wake you for at night? We would like to hear an answer that we can not find on this faculty..

You can always awake me for the catchment of coral larvae! *What!?* As already mentioned, I work for Van Oord but within Van Oord I started a coral nursery. As already mentioned, Building with Nature is something that really gets to me and the nursery helps us to not only focus on negative, but also positive effects when building infrastructure. The container, in which our laboratory is positioned, can be placed everywhere in the world. Therefore, we can catch the eggs of coral all over the world and fertilize them after which the larvae can grow on multiple tiles. In Australia we used to get the coral from the reef and do the spawning on land, but in the Bahama's we did the spawning underwater.

Meet the professor: *Mark van Koningsveld*

Does that depend on the type of corals, where they grow best?

Well, two different spawners exist. First the "brooders" and secondly the "broadcast" spawners. The "broadcast spawners" release all their eggs at once (in one night) so that's the best moment to catch the eggs of these corals.

Are those multiple setups divided over parts of the world or is it one setup that moves?

It's one setup that moves over all the world. The moment that the corals release their eggs is really special so if someone wakes me up in the middle of the night, this is something for which I would stand up next to my bed straight away!



Heb jij passie
voor water en
de wil om je
te ontwikkelen?



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Hydraulic Dinner 2 | AllSeas, Arcadis and Fugro

Written by Florian Laurens

While the summer was slowly arriving and our students (hopefully) passed their third quarter exams, time came for the second Hydraulic Dinner of this year. It is for the first time in our existence that a second edition of this annual event was organized. This second edition we tried to keep somewhat smaller and more personal than the one held last December. To do so the location for this edition was right in the heart of our historic hometown: Delft, at restaurant "De Waag". From as early as 1539 the municipality officials used this monumental building as a place where goods and valuables were weighed and measured.

For our dinner night however, this location was used to weigh and measure whether the companies and students could be of interest to one another. For this second edition three companies accompanied us over an exquisite menu (all of them for the first time): Arcadis, Fugro and AllSeas. Twenty-one of our finest Hydraulic Engineering students got together with twelve representatives of the above mentioned companies. All students passed a selection in order to be able to participate, which resulted in an extra-motivated crowd.

During the evening the students had the opportunity to pose all their questions to the companies. Furthermore, after every course the students switched tables until every student had had the opportunity to sit with every company at least once and to share a course with their employees.

In between every course there was the opportunity for one of the companies to give a short presentation to the students. The companies were given quite some freedom concerning the exact content of the presentation, resulting in a good diversity in the presentations. Various aspects of the companies were highlighted like the working environment, company activities, sustainability, ongoing projects and available opportunities for students.

After the dessert was served it was time for the final presentation, held by Fugro. Before the evening would come to an end there was time for some tea and coffee and some final conversations before the evening had come to a conclusion. As the representatives of the companies wandered off towards their cars or trains, the students of the group decided it was not yet time to go home and to pay a visit to all-time favourite café "de Oude Jan". At this location, the last

serious note disappeared while the beers kept coming until the early hours... All in all, we can look back at an incredibly successful second edition of this event that has been very beneficial to the students and (hopefully) also the companies. Many of the students really appreciated the diversity between the participating companies as it gave a good overview of some of the various possibilities with a master degree in Hydraulic Engineering. The evening was a huge success and as the organisation we can't wait for next year's event!



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- How to improve, design or create a (new) port?
- What would be the ideal development for a marina, waterfront and the coastal zone?
- How do we protect urban areas from flooding?
- How can we make use of Building with Nature?

Join us in taking on these challenges!

For more information about Royal HaskoningDHV, please contact Gosse de Boer (Gosse.de.Boer@rhdhv.com).

Written by Sebastiaan Woerlee

As one of the main contractors with Dutch roots in the Hydraulic Engineering field, Van Oord always attracts plenty of students from our faculty. For that reason, a company case day to the head office of Van Oord is a logical step in getting to know the company and comparing it to other firms. Many students thought of this the same way as us and joined us to their headquarters to dive into the hydraulic world of Van Oord.

On the 20th of March, a delegation of almost twenty students joined the company case day organized by Van Oord at their head office in Rotterdam, next to the Van Briene Noord Bridge, with a beautiful view over the passing vessels sailing across the Meuse.

After some general presentations about the company we were put to work already at an early time of the day. The case dealt with the North Sea Wind Power Hub and was divided into three stages. The first of these was mainly to get acquainted with the project, by means of determining the best strategy in order to achieve the lowest overall project costs. By requesting different investigation reports the results could turn out differently than expected beforehand.

A lunch in the fresh breeze at the terrace and some interesting conversations with Van Oord's employees made it possible to get back to the case study with new energy. In the next phases we were encouraged to consider what protection was needed to retain the water from the North Sea. In this way, we got a better understanding of the materials and dimensions coming along with a project scale like this in such severe weather conditions. Finally, a construction plan needed to be made up taking into account economical and practical motives, even as the equipment that was necessary to make the project a success.

In the end, there was time for some discussion as the solution that Van Oord came up with was presented. The day came to an end with some drinks and snacks, which were most welcome received by all students after such a long day of work.

Overall, it can be said that this day had been very informative, both in relation to getting to know the company and testing ourselves with a typical contractor-like assignment. We would like to thank Van Oord for the effort they put into this highly successful event and the insight they gave us into their working field and activities.



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Symposium 2018: North Sea Power

Written by Inelotte Krijnen

On Thursday the 24th of May our annual Symposium took place, which was themed "North Sea Power" this year.

The North Sea offers great possibilities in terms of offshore energy and floating cities (additional liveable area for the expanding human population). The question of the day: 'how can we tackle challenges concerning marine ecology and efficiency to make optimal use of our North Sea for our future?'

The areas relatively close to shore, which are the first that will be utilized for offshore windfarms, will provide insufficient possibilities over the long haul to develop the required volumes of offshore wind energy. This makes it necessary to look for possibilities far out at sea.

The challenges and possibilities that arise with building far out in the North Sea have been addressed by the different speakers of the day.

The first moderator of the day was Prof. dr. ir. Mark van Koningsveld, our brand new professor of Ports and Waterways. With his experience in and knowledge of the Hydraulic field, his contribution to the Building with Nature working method and his eloquence he was able to ask some critical questions, point out the relevance of the different subjects and connect the presentations perfectly.

Marlies Langbroek has a lot of experience in stakeholder engagement and fulfills the role of team lead stakeholder management and communication for the Consortium North Sea Wind Power Hub. With her first presentation she opened everyone's eyes by means of some interesting videos. Did you know the total time of human life on Earth equals 3 seconds when you equal the existence of the Earth with 24 hours? She took the students, and all the other interested people that visited the symposium, to a larger point of view. What are all the elements that pertain the initiation phase of the North Sea Wind Power Hub? The North Sea Wind Power Hub is intended to be built far offshore to collect all the energy from different wind farms of the different nations surrounding it and transfer the energy to mainland after (storage and) transition. What is the impact of such an island? What are the benefits? How much energy is it able to provide?

Marlies' presentation was a perfect start of the day.

After Marlies, Rutger de Graaf - van Dinther took us to a smaller perspective. His idea of floating cities, at the moment realized as floating buildings, illustrated

Symposium 2018: North Sea Power

how many solutions can solve a big problem. His presentation also showed the difficulties of making a business case out of a totally new idea. It showed the audience how to start and how to convince the investors. His idea illustrated knowledge exchange and cooperation can result in a interdisciplinary solution for a large scale problem.

After this interesting presentation, Emiel van Druuten gave us a presentation about the recently finished theses with reference to the possibilities of the North Sea. Aspects like how to store energy at an offshore island to deal with the intermittence of wind energy and what would be the best location for the island were discussed. Furthermore, the whole line of research that comes with these elements of the concept of the island were outlined. This illustrated the complexity of such a project in a Hydraulic Engineering point of view.

But it is not only the Hydraulic Engineering point of view that matters in projects of this size. Ecologist Mindert de Vries, our last speaker of the day, pointed out the effects of Hydraulic Engineering on the ecosystem. Not only did he mention the big ecosystem losses over the last decades and the importance of taking the impact on ecosystem into account in your design, he also made it specific. He showed the audience some easy habitat-creating solutions and some funny mistakes like shallow water that was meant for fish to breed, but that ended up as a bird-snackbar.

The day was concluded by a keen discussion led by Tjerk Zitman. Tjerk Zitman masters the art of being a erudite critic like no one else does. With his careful preparation he was able to ask the questions the whole panel wanted to answer eagerly. His thought-out questions inspired the audience to participate and this led to a dynamic discussion.

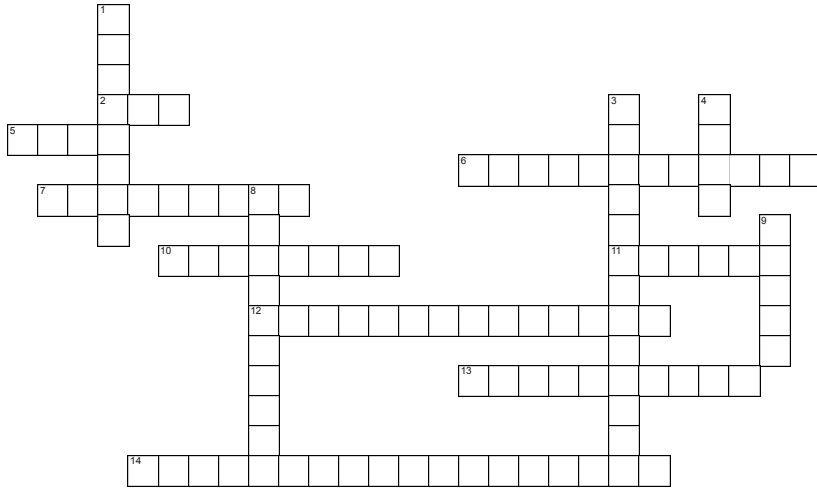
Then, it was time for a drink and a bite. The deputies of Fugro and Royal Haskoning DHV were waiting at the Lagerhuysch for a casual Company Fair.

We want to conclude with special thanks to all the speakers and both moderators that made our symposium an inspiring, dynamic, instructive day with great enthusiasm. We want thank the people of Fugro and Royal Haskoning DHV as well, for joining our first Company Fair.

We hope to see you all next year!



Hydraulic Puzzling



ACROSS

- 2 Meerdaagse Excursie
- 5 Organisation behind the expedition to the Caribbean
- 6 Turning ship lift in Scotland
- 7 Type of coral spawner
- 10 Concrete blocks used to enforce coastal structures
- 11 Water channel controlled at its head by a gate
- 12 World's largest gravity dam, in the Yangtze river
- 13 Process in which a ship propels dredged sand in a high arc to a particular location
- 14 Hydraulic Engineering that harnesses the forces of nature

DOWN

- 1 Sediment transport by natural currents near Koehoal
- 3 This year's symposium theme
- 4 Trailing Suction Hopper Dredger
- 8 Fluids with density variations in the vertical direction are..
- 9 Structure from the land out into the water

Today a man knocked on my door and asked for a small donation towards the local swimming pool. – I gave him a glass of water.

RIP boiling water. You will be mist.

How do you make holy water?

You take normal water, and boil the hell out of it.

How can you tell the gender of an ant?

If you throw it in water and it sinks, it's a girl ant. If it floats it's a boy ant.

What did one ocean say to the other ocean?

Nothing, it just waved.

Why did the white, furry bear dissolve in water?

Because it was polar.

What did the fish say when it ran into a wall?

Dam.



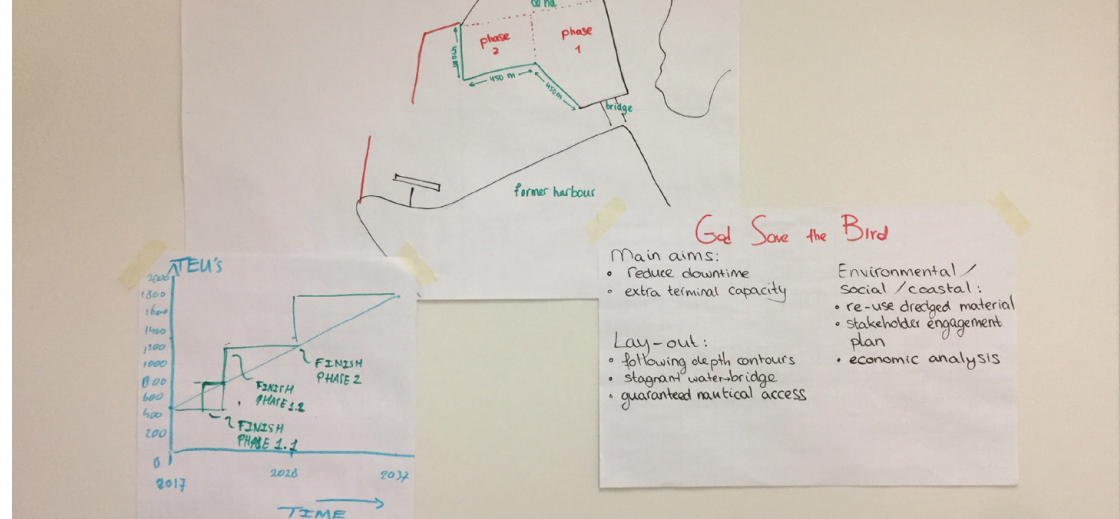
Written by Servaas Kievits

On a Monday, the 26th of March, we were welcomed with a group of 20 students at the beautiful office of RHDHV in peaceful Amersfoort. As one would expect of a group of students, barely 16 made it on time, the others joined ten minutes later with a lousy excuse. Complete after all, the Company Case of RHDHV could finally start!

The day was opened by multiple employees from different parts and generations within the company sharing their stories with us. Where the younger employees predominantly showed what the week and function of a starter at RHDHV looks like, the 'older' employees would make impact with anecdotes about projects abroad. Both very interesting perspectives that spoke to everyone's imagination.

Just before lunch the case was introduced. Following one of RHDHV's solutions, the case focused on a port masterplan, consisting of 3 smaller assignments. An appropriate location, breakwater design and cost estimation all contributed to the masterplan that was presented later during the day. After all presentations, the RHDHV solution was presented with cool visuals where we could all ask our questions and comment on the design. Although it had been a long day, people did not quite seem done with it as everyone stayed for the drinks afterwards...

I would like to thank RHDHV for the warm welcome and organization of this day. I believe that many students have gained a good insight both in the operations of RHDHV on ports and in the opportunities for starters, and if that does not do it, the surroundings of the office will!



As the academic year is coming to an end, we can look back on an amazing Hydraulic year, with a lot of amazing Hydraulic activities organized by "Het Waterbouwdispuut". Below we have listed the most remarkable moments of the past year in a timeline for you (and us) to reminisce on the best year yet!



Hydraulic Dinner 1

The first Hydraulic Dinner of the year took place in Amsterdam. Joining us were Royal HaskoningDHV, Boskalis, Van Oord and Witteveen+Bos. The food was fantastic and many business cards exchanged: a great night!



Symposium

MAY 2018

Arguably one of the best weekends in 2017 took place in Lisbon! 25 Hydraulic Engineering students and two supervisors fell in love with this great city. Highlight: the excursion to the coast of Capernica with coastal geologist Celso!

DECEMBER 2017

Study tour 2017

JULY 2017

DECEMBER 2017

MAY 2018

A changing world needs changing thoughts. This year, the symposium centered around the theme 'North Sea Power'. Focus was not only on the possibilities, but also the complications with building at sea. A very interesting day with great discussions!

The second Hydraulic Dinner took place in our trusted hometown Delft, at 'Cafe de Waag', this time with 3 companies: Fugro, Arcadis and AllSeas. The food was perfect and many people were acquainted.

Hydraulic Dinner 2



MEX to Lisbon



Some of us started this great academic year with a study trip towards India and Sri Lanka! Look at all those happy Civil Engineering students!

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Allseas



Arcadis



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Afsluitdijk
5 juni 2018

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- nadenken hoe je met je team innovatieve technologieën én duurzaamheid (duurzaam bouwen en energieneutraliteit) op zijn best kunt toepassen in dit miljoenenproject
- de oplossing presenteren voor een deskundige jury die aan het eind van de dag het winnende team zal benoemen
- sfeer proeven bij ons op kantoor en dineren met ervaren Witteveen+Bos collega's. Bedenk jij de winnende oplossing? Schrijf je nu in! www.witteveenbos.nl/businesscourse

Business course
5 juni 2018
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(reiskosten worden vergoed)

9.30 - 18.00 uur
aansluitend borrel en diner

Schrijf je dan nu in voor deze business course op 5 juni a.s. of kom naar de volgende editie in november

