TAYLOR VISION

UPCOMING ACTIVITIES

INTERVIEW with Matthijs Langelaar

RESEARCH AT PME

PUZZLES

April 2025

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HISTORY

Taylor is the study association related to the department Precision and Microsystems Engineering of Delft University of Technology. The association was founded in 1988 to enhance the study experience of the students. The Taylor Foundation, in its legal form, was subsequently founded in 1992, making it an official organ in the TU Delft. During this time, the department changed its name from "Production Engineering" to the PME you are all familiar with. In contrast to what many people think, Taylor is not named after the famous mathematician known for the Taylor expansion. It is named after the mechanical engineer Frederick Winslow Taylor, who was active in production engineering and industrial efficiency. The logo of Taylor was inspired by the tip of an Atomic Force Microscope, an instrument that requires technology from all the divisions of the department. Taylor aims to enhance the study experience of the students by: trying to improve the relation between the students and the department staff, bringing the students in contact with the industry, providing the department with student feedback about courses and, last but not least, organizing recreational events to de-stress from the hard working life as a PME student.

Contents

From the Board

Dear HTE'er,

Last edition I ended my message by wishing for better weather, but I didn't expect my prayers to be answered in this way. I know it is very Dutch of me to talk about the weather, so let's look back on what a great quarter we have had. We visited two companies, TWD and VDL, and another two companies, PM and ITEC, gave lunch lectures, which were all very interesting. Also we hosted a Taylor drinks where another company, Sensirion, visited us and we also revealed the winner of the logo design competition organised by VDL and Taylor.

Next quarter will be even busier, with major events like the Connect event, where companies from in and around Delft will be showcasing themselves and you will have the chance to talk to them over dinner and drinks. Another event that we look forward to is the second edition of the Ball-BQ. Finally you will have a chance to nutmeg your favourite professor and take home the trophy and a well deserved prize. We hope to see all of you at these events, they will be a lot of fun!

On behalf of the Taylor Board,

Tim Kok

Recent Graduates

14/01/2025	Maarten Jankie	High-Resolution RF Probing: Design and Fabrication of a Contactless RF Voltage & Current Probe for Micrometre Resolution Characterisation of Integrated Circuits
17/01/2025	Jasper Keizer	Desiccation Behavior and Material Characterization of Chrysanthemum Stems: A Study Combining Computational Modeling and Experimental Modal Analysis
20/01/2025	Aiman Al-Fakih	Developing a Tunable Vibration Isolation System Based on Locally Resonant Mechanical Metamaterials
20/01/2025	Pitia Claret Esquius	Design of a statically balanced passive aerial manipulator for placement and retrieval of magnetic sensors in the environment
17/02/2025	Tim van Helmond	Introducing the constant area constraint for linkage mechanisms
24/02/2025	Tetsuo Martynowicz	Characterization of Wrinkles and Quantum Emitters in Wrinkled 2D Hexagonal Boron Nitride for Optofluidic Applications
25/02/2025	Paulien Laninga	Development of a vascular model with pre-formed channels to create an alveolar-capillary barrier model integrating flow and stretching
27/02/2025	Pepijn van Kampen	Miura-ori pattern optimization for origami shape matching using the bar-and-hinge model
21/03/2025	Marn Klein Holkenborg	Quantification of cell membrane insertion events using force spectroscopy
28/03/2025	Maurita Bloembergen	Layer Thickness Control in 3D Fabrication Sequence Optimization for Multi-Axis Additive Manufacturing

Congratulations!

Upcoming Activities

23 APR | **Lunch Lecture**
DEMCON

25 APR | **Master Thesis Market**

30 APR | **Connect Event**

7 MAY | **Thesis Troubles**
Writing your thesis

8 MAY | **Taylor Drinks**

14 MAY | **Ball-BQ**

15 MAY | **Lunch Lecture**
TNO

21 MAY | **Ladies Night**

28 MAY | **Case Study**
Enginear

4 JUN | **Taylor Drinks**

Taylor Football

Each Monday at 6 announces a very important time for 10-15 HTE students, as this is when the study associations football team Taylor needs to perform in the 'Maandagavondcompetitie'. Held at the X sport center, the Maandagavondcompetitie is a very high-performance international football league. At least, that is what we tell ourselves (-:

Even though there is no referee, and it is played on a half court with 7 players on each team, the games are played with lots of motivation and as the season progresses, also does the quality of the football played within the team, which is very nice to see.

Even though the team is very eager to win, currently that is the one thing that is not going very well. Which is unfortunate on the one hand, but it does mean that each win is very well celebrated. Usually after the game a few pitchers are brought to the table where the game is discussed and laughs are shared, which really bonds the team and rounds off the Monday, which is great as the team atmosphere (next to the high-performance international league of course (;) is what the Taylor team is all about.

By Mark Noordermeer

Taylor Trip Reunion

After a summer full of adventures, culture shocks, and bubble tea in Taiwan, it was time to reunite and relive the memories. On a chilly evening in February, the Taylor trip group gathered at Mooie Boules in Delft for an evening of laid-back competition and gezelligheid.

Over rounds of jeu de boules with beers in hand, stories of the trip resurfaced: from incredible nights in Taipei, visiting the largest chip manufacturer in the world to the breathtaking views in Jiufen.

Whether you landed all your shots or ended up chasing your boule into the next lane, the reunion was a perfect reminder of the good times shared this summer in Taiwan.

By Martijn Smak

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Company Visit

After traveling to Rotterdam by public transport, we were warmly welcomed by TWD at their headquarters in the Rotterdam Science Tower. Our visit began with a tour of their impressive office on the 13th floor, offering a stunning view of the Rotterdam harbor. The open workspace was truly inspiring and a perfect setting for creative engineering.

On the ground floor, TWD also has a cozy space with a canteen and coffee bar, which we were lucky enough to enjoy while chatting with some of the employees. Afterward, we were given a presentation about TWD's core values and organizational structure.

The presentation was followed by a hands-on case study where we had the chance to apply TWD's design strategies. The challenge was to build the tallest possible structure using wine gums and sticks, while keeping it structurally stable. These towers were then tested on a platform that simulated the motion of a vessel at sea. It was great fun to see whether our constructions could survive the shaking. The winning team even received a well-deserved goody bag.

We ended the day with a "gezellige borrel", where we had the opportunity to speak more in depth with employees about their experiences, especially what it is like to work at TWD with a high tech engineering background.

Thank you, TWD, for giving us a glimpse into your inspiring work environment and for sparking our curiosity in innovative construction methods.

By Laura Graziosi

Lunch Lecture

ITEC manufactures simple semiconductors at a mass scale. In the semiconductor industry they work after the wafer production, so the processing and assembly of the wafer. They have more than 30 years of experience and produce over 250 million semiconductors per year. Currently development is going on on the next generation of wafer stages. Instead of a planar motion, they used a rotational stage, which is a real shift in how wafers are being processed. In this case they use a flexible foil which is then actuated using dual torque motors.

ITEC also has an innovation department that is involved in laser technology. Traditional pick and place machines are not able to perform fast enough because of mechanical limitations. Laser based technologies allow release times of << 1ms and with a much lower release energy. The challenges that TU Delft and ITEC are working on a consistent release of the die with laser actuation. Then the next part is that the die needs to be caught by another microfluidic gripper to complete the transfer. After this the next challenge is how to make sure that the die sticks to the other side without any force input. Lastly, then moving the die using acoustic levitation is another major challenge.

The presentation was very interesting, with a lot of emphasis on the innovation aspect, which is always nice to see. They really also answered our questions well, even though some they were not allowed to answer fully.

by Tim Kok

settels savenije
group of companies

Interview

With John Settels

This quarter, I had the opportunity to sit down with John Settels, CEO of one of our partners: Settels Savenije. After arriving by train in one of Eindhoven's most charming neighborhoods, I took a short walk to their office, where John gave me a warm welcome.

We started the morning with a great cup of coffee before heading to his office for the interview. On the way, John shared some fascinating background about the building, which used to be a water purifying plant. After the interview, he gave me a full tour—and I have to say, it was a very cool experience.

You can really feel the building's industrial past. Every room has its own character, with mineral deposits naturally 'painting' the concrete walls in unique patterns. The office is incredibly spacious, with excellent acoustics and tons of natural light. John mentioned they invested heavily in getting that part just right—and it shows.

He also walked me through their cleanrooms and manufacturing halls, which was an eye-opener. The range of products they develop is impressive—from the ultra-precise assembly of Electron Microscope sample holders to the production of large copper components for medical imaging systems.

You'll find some photos alongside this piece to give you a feel for what the tour looked like.

The founder and managing director of Settels Savenije

A big thank you to John and the whole team at Settels for their hospitality and I hope you enjoy reading the interview!

Can you tell us a bit about Settels and how it all started?

Settels now consists of about 170 people, split evenly between R&D, precision parts manufacturing and cleanroom assembly. We started out as a small group of mechanical engineers. I studied industrial engineering & management science and started the company together with Jan van Amelsfoort—a very talented mechanical engineer. He focused on the technical side, and as from a staff of 25 I took on the organizational side.

In 1999, I took over general management. Times were tough back then. In 2006, we

moved to Eindhoven with just eight people, and I had to ask myself: what now? We had great mechanical engineers, but detaching them out to clients wasn't ideal—they don't usually enjoy that.

So I flipped the situation around. I asked: what kind of world do I need to create to make talented engineers feel at home? A place where they want to work. A place with exciting, meaningful projects. In the high-tech world, 90% of business is based on trust—clients trust that you can deliver. Now we're a 170-person company with €30 million in revenue, serving cutting-edge clients all over the world. That success comes down to one thing: **focus**.

What does that focus look like in practice?

We monitor whether people feel inspired, and we train our staff to give feedback in a positive, constructive way. I have 100% confidence that everyone here will develop technically, so my focus is on them also developing their social and leadership skills in this company.

We originally started as a mechanical engineering company and in 2010 we began precision manufacturing. There was this machine shop struggling to survive. I sent my current business partner Gustaaf Savenije over to take a look, and he came back with very positive feedback—they had incredibly skilled technicians. Every mechanical engineer gets excited about that. So I had to find a way to bring those worlds together. In 2011, we found the TAQ building and we moved in here in 2017 which helped integrate everything. Since then, we've also added physics, software & control, motion, dynamics and electronics disciplines.

Today, we're the R&D partner for several global high-tech companies. For example, one of our largest projects was with a customer in Germany—we've developed factory tooling for handling optical components used in ASML's machines. We're talking about incredibly advanced technology: blocks of ultra-precise glass weighing hundreds of kilograms that need to be handled with the utmost care and precision. This is a great example of the type of project that we like to have, and where we can use our expertise. We're also working on a measuring and test device for Semicon right now—though I can't share much about it. And we assemble sample holders for electron microscopy. A large part of our R&D team focuses on developing multidisciplinary concepts.

What does the onboarding process look like for a new engineer at Settels?

Within R&D people become a member of one of the competence groups, where they join an ongoing project as part of a team. Every new employee is assigned a mentor to help them get settled and productive as soon as possible—ideally in areas they're passionate about.

We usually figure that out pretty quickly. After a few conversations, we often know where someone's passion lies. A lot of our people are into tech even in their free

time. In a bigger organization like this, you also need people who do have a technology background and a passion for project management, sales & accountmanagement etc.

We're proud of our diversity: we have 13 nationalities here, various talented women also within R&D, and a healthy age distribution. Many of our senior engineers are passionate about mentoring younger colleagues.

As a junior designer, you'll get the freedom to develop yourself. You'll also be closely involved with the manufacturing side—because collaboration between design and production is key. That's why we've brought everything under one roof. We are starting a new department that focuses specifically on integrating those different disciplines. R&D is a fast-paced world, while assembly is highly structured. One of our goals is to make sure those cultures understand and complement each other.

Where do you see the company heading in the coming years?

In terms of capabilities, we've become truly multidisciplinary. We've also grown through acquisitions. But the key question is: *how big should this company get?*

We want people to walk through the door and immediately feel what the company is about—and the kind of technology we work on. I believe that if we grow to around 250 people, we can still maintain that culture and know everyone by name. But if we grow to 500, then we become a different kind of company.

What do you look for in the engineers who join your team?

We look for curiosity, technical drive, and the ability to collaborate across disciplines. Passion is a must. If you're the type of person who likes to tinker at home, share knowledge, and dive deep into complex problems, you'll fit right in. But we also value your ability to communicate, to listen, and to grow within a team. You don't just need to be good at engineering—you need to want to **build something together.**

By Tim Kok

Ladies Night

Team – Bella Pau Pau Pau

Named after team members Bella, Laura, and Paulien, with a playful nod to the song Bella Ciao, famously featured in *La Casa de Papel.*

On Wednesday, March 12th, it was time for another High Tech Ladies Night! This time, we convinced one of the High Tech guys to make us a delicious risotto – and it did not disappoint.

After dinner, the fun continued with a game night featuring 30 Seconds, charades, and Codenames. We split into three teams of three, each with a suitable team name. As the games kicked off, so did the competitive spirit – everyone was in it to win it! And in the end, team Tikky-bad claimed victory.

Overall, it was an evening full of laughter, good food, and great company. We're already looking forward to the next Ladies Night – hopefully outside, with sunshine and some specialty beers!

By Rachel Bakker

Team – Tikky-bad

Inspired by the nickname of one of the team members and the waterslide park located in Wassenaar, the Netherlands.

Team – The Founders

Apparently, a founder is also the German word for a flatfish.Therefore, the founder of Ladies Night, Paulien, has been transformed into the ultimate catch of the team in this photo.

Ongoing Reso

DMN Research Group

The project that will be shown is the NOVOCOAT project, which is about the early detection of coating failure using Atomic Force Microscopy.

What is the project about?

Lara: Coatings of course play a vital role in protecting materials and enhancing their sustainability, but a major challenge in the coatings industry is the early detection of failure. Conventional testing methods cannot accurately predict this failure and do not uncover the fundamental mechanisms behind it. So, in our project, we aim to solve this by characterising the properties of these coatings, but now at nano-scale! To do that we have to subject them to a variety of external factors, for instance temperature: Imagine a plane taking off in a very hot area and then ascending to cruising altitude, that is a temperature shift of maybe 100 degrees!

So what does a typical day look like for you?

Nick: So a typical day would start with preparing the experiments. This usually means picking up and preparing the coating samples. Then to determine these properties we use an Atomic Force Microscope (AFM). With this we can do all sorts of interesting stuff: we can make images, find the surface topography, the stiffness and damping of the material and also distinguish between different materials. Of course there is a lot of variety with these experiments, some are with temperature cycles, others with mechanical loading cycles; there can be different coating types, or even weathered samples. So, over time, you really become good at adapting to these situations and that makes it a lot of fun! After this we have of course a lot of data from the experiments to analyse, which also is a nice change of pace.

Santiago: Where I come in is more in the modeling and data analysis aspect of the project. At the scale that AFM works there are a lot of nonlinear effects that we have to account for. These all have influence on the dynamics of the interaction between the AFM and the coatings, and these can become very complex. One example is if the sample sticks to the tip of the AFM, because we cannot just measure that straight up. We need advanced machine learning models to model these dynamics, but we also need them to retrieve the properties of the coatings. So what I am mostly working on is training models to solve these complex problems.

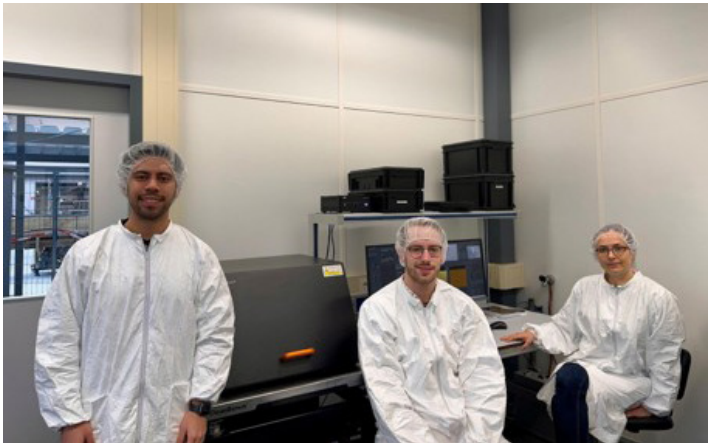
earch at PME

- NOVOCOAT project

What can still be done within this project?

Farbod: Many things actually! For instance these external factors that we described, those all need to be implemented. Some solutions we can buy off the shelf, but some we have to design ourselves. We now have master students working on the temperature and mechanical strain aspect, but we have several factors left to study: for example, the influence of the substrate on the coating, or the humidity. In the modeling we also have a student working on uncovering the sample motion with machine learning and here also there are many possibilities to build upon this work.

Contributors:
PIs, PD, PhDs and MSc's:
Farbod, Urs, Lara, Santiago, Nick, Can, Martijn and Tim.
Industrial collaborators:
Nanosurf, AkzoNobel, SHR, Airbus
University collaborators:
Institute for Bioengineering of Catalonia (Spain), Polytechnic University of Marche (Italy)



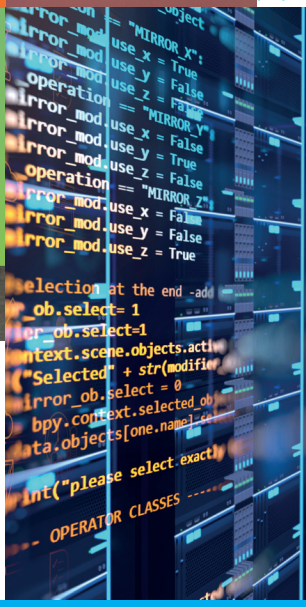
VIRO

Lisa

"VIRO is a particularly open and transparent organisation, where support is available from various angles. As a result, you are not alone and can always turn to someone.'"

Read Lisa's story here.

VIRO Academy



Will you join us for a cup of coffee soon?

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Company Visit

VDL ETG

First of all, thank you so much for having us VDL! The day started off great. The visitor count was so high that VDL decided we could have the VDL tour bus with our own busdriver. We all felt like kings and queens. Upon arriving there, we had a small presentation on the activities of the company and what it is like to work there. The presentation showed the latest projects and of course all the cutting technology that they are developing. The presentation was followed by an amazing tour of the factory. We walked by the biggest cleanrooms I have ever seen, had a peek into a discarded lithography machine and had a quick look at the machining room. Tour guide Guus was very passionate about the company and the projects he was working on and the knowledge within VDL is incredible. It's always a pleasure to visit VDL, thank you!

By Guus Tulen

Lunch Lecture

PM.nl
DISCOVER PRECISION

On Wednesday the 19th of March, PM came to Delft to give a lunch lecture about the company. They introduced us to the main focus and area of expertise of the company: linear bearings and motion systems, as well as rotating motion systems.

During the presentation, they showcased several of their in-house products and machines used in their fabrication process. They also touched on the design principles PM follows and the typical challenges encountered during product development, such as managing noise and tracking disturbances. A particularly interesting part of the talk covered the theory behind particle and molecular contamination, which is a critical factor in the design of high-precision motion stages. PM uses residual gas analysis (RGA) to detect and verify contamination, and they gave us a solid introduction to the fundamentals of this technique.

We'd like to thank Thijs and Marja for coming to Delft and offering us a glimpse into the world of engineering at PM.

By Rachel Bakker

Interview

Cats or dogs?
Cats

Favourite travel destination?
Mountains, bikeparks

Favourite food?
Cheese sandwich

Guilty pleasure song?
Anything Rammstein

Matthijs Langelaar

Where did you grow up and what was your childhood like?

I was born and raised in Apeldoorn and have a younger sister and two younger brothers. We moved around multiple times, and I've lived in different places before eventually ending up back in Apeldoorn. As a kid I played trumpet in a marching band and also in concert halls as part of an orchestra, until at some point I lost interest. I also used to play in the local handball team. School went fairly well for me, I went to the gymnasium and got some extra courses to have an extra challenge—mostly math and physics. It was always clear I was going to pursue further studies. I was torn between applied physics and mechanical engineering, but mechanical engineering felt more interesting, and I liked its practical applications.

How did you end up in Delft?

I studied mechanical engineering in Twente for five years and lived in Enschede with fellow students, in the neighborhood that was later hit by the fireworks disaster. That was a great time (not the fireworks), I really enjoyed the student life. However, after several years in Twente I looked for a change in scenery. So for my graduation project, I moved to Haarlem and worked for a year on a project at the Hoogovens (steelworks, currently Tata Steel). That was a great experience. My thesis focused on a numerical simulation of a deepdrawing process for a specific type of aluminum. My main contribution was in material modeling of the yielding behavior using a NURBS-based yield surface, and it was very well received—I was one of the very few students ever to be awarded a 10 for my work. This graduation project made

me realize that I genuinely enjoyed doing in-depth research, and it got me thinking about pursuing a PhD.

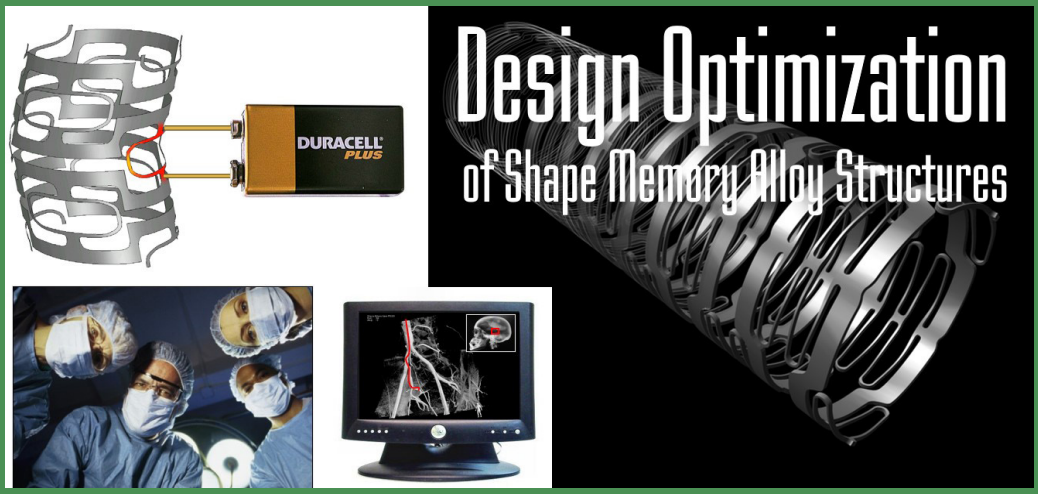
I initially considered staying in Twente for my PhD, where I also had a job offer to continue on my thesis project, but I was more interested in broadening my horizon and started looking abroad. I have spent many weeks using a slow dial-up internet connection on my in-laws' computer to search for topics and opportunities for PhD positions. One project that caught my eye involved a humanoid robot, which sounded really cool. But when I went for the interview, it turned out to be about simulation of tooth brushing! This involved interesting mechanical challenges, like contact and large deformations, but it wasn't what I was looking for.

Eventually, I settled for a PhD position at DLR's space robotics division in Munich. It was very high-tech—a human-like repair robot for use in space. Once I started there however, the project turned out to be less about space robots and more about optimizing geometries for an industrial welding robot. When big car manufacturers look for a new robot, they invite welding robot manufacturers and ask them to follow a target trajectory. The company that can do the job the fastest gets the sale. So to allow the robots of project partner KUKA to beat the competition, my job was to develop a method to find the best dimensions of a custom-built robot to win this welding competition for a given trajectory. That's where I got introduced to optimization—developing methods from scratch to design entire geometries and dynamics. I found this a fascinating new approach to solve problems and have stuck with this topic ever since. By the way, I happened to share an office with a friendly colleague named Steinhauser. Later I learned that there is a famous aggregation function in optimization that is named the Kreisselmeier-Steinhauser function [https://doi.org/10.1016/S1474-6670(17)65584-8]. Only after many years did I put together that that function was actually invented by my former office mate.

But, as was the case for many of my endeavors back then, things did not turn out as advertised. While I had joined DLR with the expectation to do a PhD fulltime, it gradually became clear that getting my doctorate was something I was supposed to pursue outside of work hours. I also gradually started missing a bit of an academic approach to investigating problems. So I started looking for a new, and an actual PhD position, at a university. Then I received a vague email from the Netherlands offering a 25,000 guilder prize (about 11,000 Euro) for my graduation project. At first I wasn't sure this was not a scam, but it turned out legit. With this award, I could afford to move back to the Netherlands, and start a PhD I found at, sure enough, the TU Delft.

What were the main topics of your research?

My PhD research was funded by the Mechanical Engineering faculty and aimed to kickstart work on microsystems and miniaturization of medical instruments, which was a new topic in the faculty back then (2001). I however found it much more interesting to follow up on my experiences at DLR and create software to optimize something like a catheter that could steer itself using shape memory alloys. My promotor, Fred van Keulen, did not stop me – I think he in fact approved of this change. Determining the best shape of the structure turned out to be the most fascinating aspect, and that's how I got into shape and topology optimization. It was a great experience, including collaboration with a university in Korea. Being abroad in such a different



environment helped me get a perspective of what it's like to be a foreigner myself—and I really had to adjust to the spicy Korean food!

Looking back, I am glad I stuck to my idea of doing a PhD, and also the academic career that followed suits me well. Following my PhD I have kept exploring topology optimization in various applications, and from about 2012 I increasingly focused on combining it with manufacturing requirements, in particular additive manufacturing. At the same time projects involving high-performance motion stages in lithography machines became a bigger activity. Looking back, the applications I've worked on so far seem a bit all over the place, also including integrated photonics, reinforced concrete, solar cells and food processing equipment. But to me it is all coherent, and involves a variety of interesting computational design challenges.

Could you tell us something about your research group?

My group, Computational Design and Mechanics, is one of the largest sections in the department. We are currently with seven people, and it is a very nice and diverse group with complementary expertise and a shared passion for design and modeling. As a group we have grown gradually over the years: Hans Goosen and I go back a long time, he became my colleague when I was doing my PhD. Haluk Akay on the other hand joined just a few months ago. Next to a lot of research activities regarding computational design, everyone in CDM has a considerable role in education, because most of us have a strong mechanics background. Not surprisingly, we are mostly involved with teaching mechanics, modeling and optimization. These topics are popular among students, although that hasn't always been the case. These subjects aren't exactly easy, but we feel that by teaching the fundamentals well, students really gain valuable insights, skills and knowledge. Now that we are talking about the group, I think it is getting time to organize our next group activity. The last time, we went tree climbing in the Scheveningse Bos, which I can recommend to anyone. Some of us didn't make it past knee height up a tree, but Hans, believe it or not, well he proved to be a natural born climber.

How do you like your role as full professor?

I really enjoy it. I like to work for my group, for the department, for the High Tech theme, for things that are bigger than myself. I also like the variety that comes with this role, from teaching in front of full lecture halls, working with companies, meeting with assistant and associate professors and supervising MSc students and PhD candidates. Never a dull moment! I did not have my mind set on achieving this role, but becoming a full professor for me felt like a natural progression after doing my PhD here and then going through the tenure track.

What's the new course Computational Design about?

It's the course we've always wanted to have. Many students who start their thesis and PhD work on topics like topology optimization often need to first invest time to learn the fundamentals. This course is meant for students interested in that area, using computer algorithms for design. We go into specifics of the various methods, and also include several hands-on sessions. In computational design of components with well-defined functionality we can already do a lot. Human designers are still ahead particularly when it comes to complex systems or qualitative requirements, but with the help of machine learning we can start to close the gap. Students that will follow the new course should keep in mind though—they're the guinea pigs for this first run!

What are your passions and hobbies outside of work?

My main hobby is mountain biking. Besides being a professor, I need a good outlet, and for me that's shredding some trails on one of my mountainbikes. Although the Netherlands does not have mountains it actually has a surprisingly good network of mountainbike trails, well-marked and at various difficulty levels. Luckily, my wife enjoys it too and on most weekends we venture out to Utrechtse

Heuvelrug where the best trails are. In the Netherlands it's mostly forest trails, but in the summer we head to bike parks abroad. Pro tip for anyone who wants to try this: get a proper full-suspension mountain bike before you venture into a bike park, otherwise you may get a free lesson in fracture mechanics – I can tell from experience. Accidentally, the surgeon who put my collar bone back together turned out to be a colleague from this faculty (BmechE department), so I was in good hands .

What's still on your bucket list?

Regarding sports, I can't go mountain biking every day, so I've been looking for other hobbies. I enjoy electric skateboarding and recently I discovered a sport called electric mountain boarding, basically motorized offroad skateboarding. It seems the perfect crossover of the sports I like, so I am looking to buy such a board.

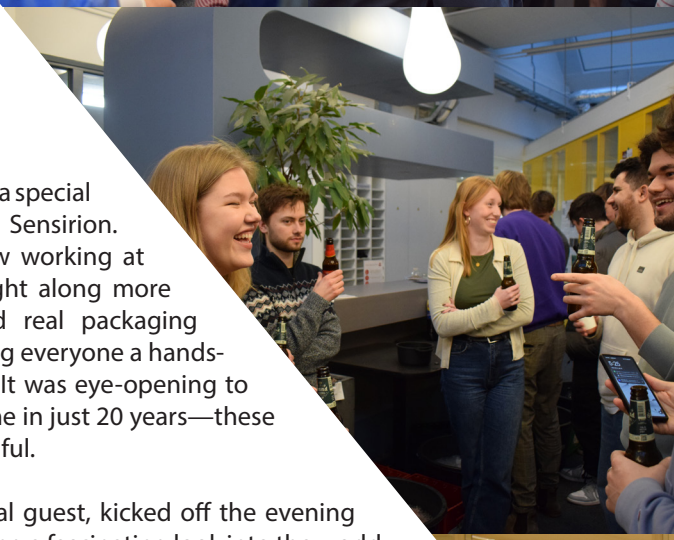
When it comes to education, I'm very much looking forward to the new Computational Design course we have developed. Q4 will be very interesting both for us and the students!

Researchwise, one idea I'm thinking about is this: computational design is often focused on optimizing a single component. But wouldn't it be great if we could define the function of an entire technical system and have an algorithm break it down into components and optimize each one? We have started one PhD project on this topic, and it is a direction I'd love to explore further. It is not easy, but when we get this right it can really accelerate the adoption of computational design.

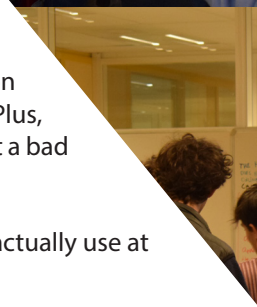
But these are just my current ideas, I prefer not to get stuck on a specific bucket list. In the end, my advice would be: just do what you enjoy. The path isn't always clear from the start, but I found that if you follow what you love, new opportunities will always show up along the way.

By Tim Kok

12-02-2025
On Wednesday, February 12th, it was time for the first Taylor Drinks of Quarter 3. Over beers, soda, and some well-deserved snacks, students and staff came together to socialize.



19-02-2025
On March 19th, the Taylor Drinks had a special twist, courtesy of our hosts from Sensirion. Maarten, a High-Tech alumnus now working at the company, joined us and brought along more than just snacks—he also shared real packaging samples and production chips, giving everyone a hands-on feel for their cutting-edge tech. It was eye-opening to see how far miniaturization has come in just 20 years—these sensors are tiny, but seriously powerful.



Sensirion, our very first international guest, kicked off the evening with a guest lecture on MEMS, offering a fascinating look into the world of high-precision environmental sensors. Later, as the drinks were flowing, we gathered for a short company presentation. We found out that Sensirion has strong roots in research, having started as a spin-off from ETH Zürich. Plus, their headquarters are located right next to the stunning Lake Zürich—not a bad place to be pushing the frontiers of sensor technology!

And the goodies? Super cool temperature and humidity sensors you can actually use at home or in your lab setup.

The evening wrapped up with the announcement of the lucky winner of the VDL x Taylor merch giveaway. And of course, some legends stuck around to help clean up—you know who you are. Thanks for that!

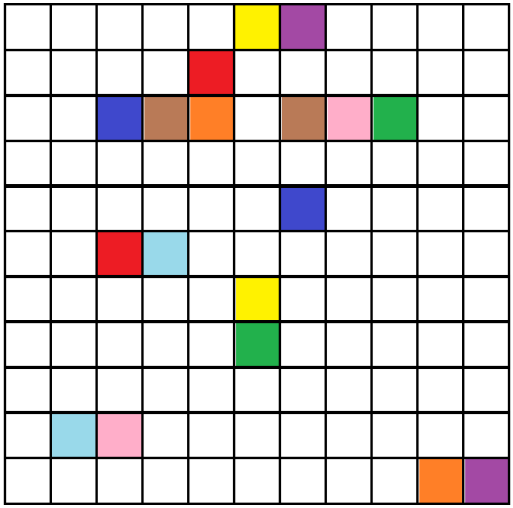
By Guus Tulen

SENSIRI

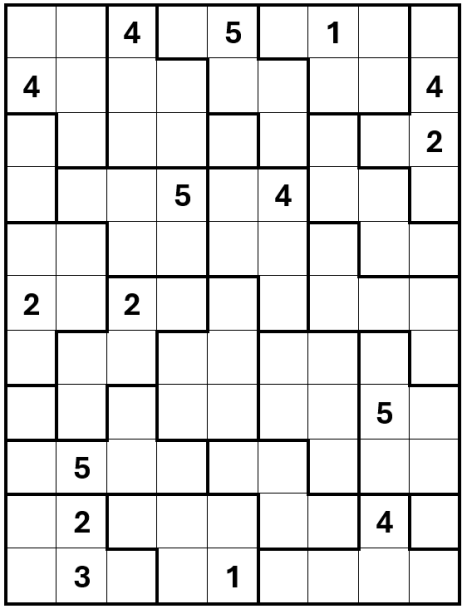
Taylor Drinks

Puzzles

Connect the colours



Tectonic



Binary Puzzle

1					1		1					0	
	0	0							1	1			
			1	1					1				0
0												1	
						0			0			1	
1						0							
	1			0			0		1	1			1
		0			1			0					1
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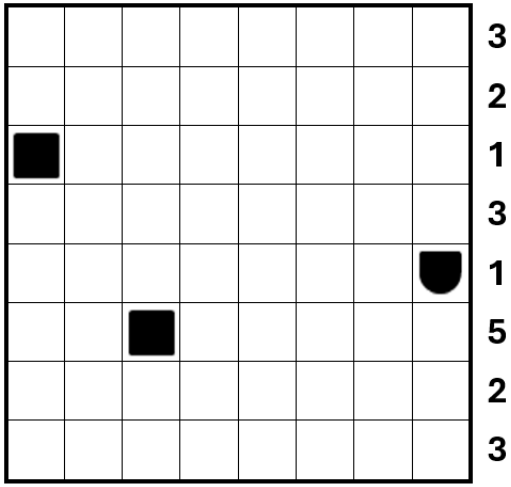
Battleships



TAYLOR 'S

BALL-BQ

FOOTBALL & BEACH VOLLEYBALL
TOURNAMENT
BBQ & DRINKS
FOR PME STUDENTS AND STAFF

14 MAY
14:00 - 21:00

Sports @ X - TU DELFT
BBQ & Drinks @ Lagerhuysch

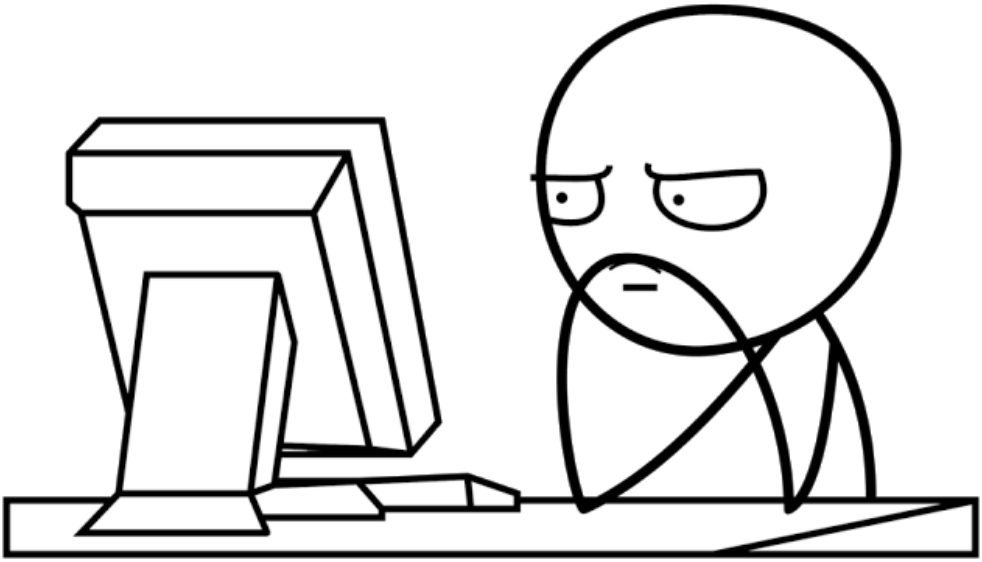
BBQ COSTS: €7,50

Physical Copy of the Vision

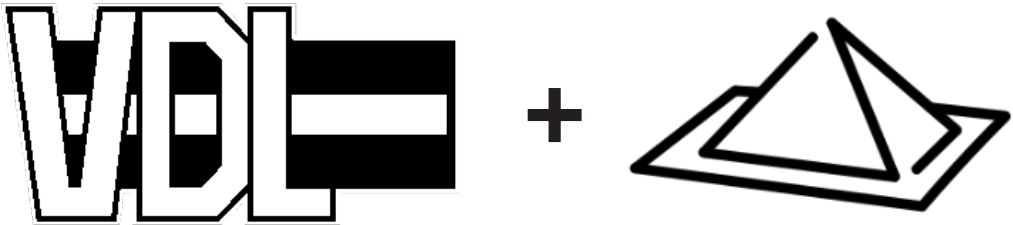
A physical copy of the first Vision of the academic year is always sent out to all the first years, in addition to a digital copy via email. If you would like to continue recieving physical copies, please let us know by scanning the QR-code and filling in the form.

If you would like to contribute to the Vision by writing a piece on a lunch lecture, excursion, or just something you think would interest the Vision readers, that is possible! Send us an email to taylor-me@tudelft.nl with your idea and we will come in contact with you.

MEMEchanics



Students be like when figuring out how to use superposition to combine two logos



Want to share your creativity by making a meme? Submit yours to taylor-me@tudelft.nl, and it might be featured in the next Vision!