TAYLOR VISION

MEET
the new board

INTERVIEW
with Nandini
Bhattacharya

UPCOMING
ACTIVITIES

PUZZLE
win a prize

November 2024

About Us

BOARD

Tim Kok	Chair
Stijn de Bruin	Secretary
Rachel Bakker	Treasurer
Guus Tulen	Education
Laura Graziosi	External Affairs

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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 44





Dear High-tech students and staff,

It has already been around 2 months since we handed the responsibilities, the Taylor office and our beloved coffee card over to the new board. It was a bitter sweet moment because we've made many memories but are also excited to see what the new board has in store for us.

To remind you of what happened in the past year, I'd like to look back on some personal highlights. To start with, the Casino Royale-themed gala! The main things I remember vividly from that night were the fantastic outfits, gambling staff members and an after party on the Thor boat where the open bar was used to its full advantage… Then, after the February break, we had an extremely sophisticated Wine bingo. It turns out that to appreciate a wine, the price is arbitrary as some can even taste high class luxury in a very cheap alcohol-free bottle. At the CONNECT event, we were introduced to diverse companies from all over the industry. Some of you even managed to find your thesis or first job through this event, which is an amazing outcome! At the end of the year, despite it being the only rainy day that week, we played football and volleyball at the Ball-BQ event as if the sun was blasting. We grilled under a party-tent while it stormed but it seemed no one really minded the weather and everyone was in good spirits. Of course, last but not least, we had the privilege to travel to Taiwan with 24 High-tech students on the Taylor Trip. Thanks to an incredible committee our trip was planned to a tee! These were just some of my favourite moments in an unforgettable year.

As a board we say goodbye, but luckily you will still be able to find us at the Taylor Drinks. Thank you for your active participation and I wish the new board a lot of fun this year!

On behalf of Taylor Board 44,

Maurita Bloembergen

Recent Graduates

30-04-24	Steven Lammers	Chip design and development for an integrated Photonics-Electron Microscopy Platform for enabling enhanced Electron energy Loss Spectroscopy
14-05-24	Maurits Neele	Ultra Hard Mount active vibration control
17-05-24	Joran van Velden	A compact ultra-Linear compliant torsion reinforced sarrus mechanism
31-05-24	Adhiraj Pimpalkar	Multi-axis wire arc additive manufacturing using optimized fabrication sequence
31-05-24	Jelle Smit	Fabrication of a glass microfluidic gas exchanger using a femtosecond laser
10-06-24	Bas Cheizoo	Automated reset controller design in the frequency domain
12-06-24	Bas Ketelaar	On-chip photonic recurrent neural networks for time series: a dynamical exploration and application search
19-06-24	Kiet Foeken	Optimizing Piezoelectric Bistable vibration energy harvesters: design strategies and performance enhancement
20-06-24	Jasper Boogers	Gradient based optimization of part orientation for 3D printing
24-06-24	Tom Kuijlaars	Design and development of a prototype for a Robot monkey: enabling transition from quadrupedal to Statically stable upright standing
25-06-24	Michiel den Daas	Synthesis of a complaint mechanism that translates a reciprocating reversible path to a history dependent area describing path
26-06-24	Mark Kalsbeek	A particle system model approach to designing a stable lab-scale lightsail
27-06-24	Derek Labaar	Topology optimization of compliant transmission systems for response minimization under harmonic base excitations

28-06-24	Shawn Dmello	Topology Optimization of Metamaterials with Negative Linear Compressibility
05-07-24	Abdelkader Karbache	Electrostatic position of diamagnetic levitating stages
08-07-24	Jeroen van Pelt	Design and Development of an Integrated Laser Marking and Cutting System for Flexible Polymer Printing Plates, incorporating Optics and Mechatronics within a Single Machine
08-07-24	Chris Wattjes	Experimental Parameter Estimation of Nonlinear Stiffness using Multi-tone Excitation
09-07-24	Frank van Raalte	Design and stability analysis of an optic flow controller for the hover of the atalanta flapping wing micro aerial vehicle
09-07-24	András Soltész	Engineering and tuning GHz SAWs in suspended SiN membranes
10-07-24	Mohamed El Shenawy	Event Camera for (High-Speed) Tracking of Acoustically Levitated Object
11-07-24	Ward Dijkman	Laser Transmission Welding of thin PEEK films
12-07-24	Yaren Acan	Light- and microfluidic-release of drugs - light sensitive liposomes
12-07-24	Chris Bootsma	Simulating an Acoustic Cavity for Single Pixel Photoacoustic Imaging
15-07-24	Gijs van Veen	Light- and microfluidic guided release of drugs
16-07-24	Hessel Tijseling	On the use of Modal Derivatives in Nonlinear Dynamics
17-07-24	David Douwes	A p-hierarchical Interface-enriched Generalized Finite Element Method (p-IGFEM) for minimizing locking on weak discontinuous beams and plates
17-07-24	Wiktor Duda	Early-Stage Design and Analysis of 2D Photonic Crystal-based Lightsails
17-07-24	Kushal Swamy	Synchronization in single E. coli oscillators
19-07-24	Rolf Bavelaar	Controller Design for a Freeform Optical Surface Tracking System with a Non-linear Spring
19-07-24	Sander Kooiman	Stencil Printing of Piezoelectric Energy Harvesters: Development, Fabrication, and Experimental Validation

31-07-24	Bobby van Thiel	A Single-actuator compliant robotic gait
14-08-24	Rebecca Hammerle	Equivalent Demonstrator of Contactless Actuator
15-08-24	Martijn Loonen	Demonstrator setup for semi-active control of a hydrodynamic journal bearing lubricated with magnetorheological fluid
19-08-24	Jasper van der Ham	Stiffness compensation design for contactless handling systems
20-08-24	Pieter-Bas de Potter	Strategies for precision adhesive bonding of optical micro-components
21-08-24	Jakub Kraciuk	Development of a 1D VIPA model based on Gaussian beam propagation
21-08-24	Andrea Labudzki	Pushing Fabry-Perot etalons towards 100k spectral resolving power
21-08-24	Jelle Mens	Evaporation control of femtoliter droplets to obtain less than 500nm vitreous ice for high resolution Cryo-EM
22-08-24	Bart Bloemendaal	Design & Fabrication of a Programmable Microfluidic Device
22-08-24	Joris Hooftman	A Cryogenic Positioning System for Linear Variable Filter Optical Characterization
22-08-24	Sanghati Roy	Feasibility of Using Si3N4 and SiC for Linear Variable Filters
22-08-24	Jost Bankras	A Novel Vibration Energy Harvester Design Utilizing a Statically Balanced Force Amplifier and Piezoelectric Stack Transducers
23-08-24	Hang Yu	Shaping higher-order harmonics in a closed-loop reset control system
27-08-24	Rutwik Patil	Comparison of Photopolymer Resins for 3D Printing of Gradient Refractive Index (GRIN) Lenses
27-08-24	Mareen Rings	Microscale Hot Forming of PEEK
28-08-24	Mansour Khaleqi	Analysis and optimization of fluidic transfer printing for microscale components

29-08-24	Peiyu Li	Development of a Beam-Shaping Enhanced Liquid-Based Laser Die Transfer System
29-08-24	Dirk Ulijn	A Compliant Dynamic Arteriovenous Fistula: The Design and Validation of a Robust Implantable Valve
29-08-24	Yujia Zhao	Characterising heat transport in 2D dumbbell resonators
30-08-24	Akshat Dubey	Modelling and Control of a Hybrid Reluctance Actuator with Tunable Remnant Magnetization
30-08-24	Ziqi Lyu	The Impact of the Engulfment Effect on the Auxeticity of Helical Auxetic Yarns
11-09-24	Mateo Bosso	Data-Driven Discovery of Stochastic Differential Equations
12-09-24	Jan Lavoo	Cepstral Ranging Performance in Coastal Waters
20-09-24	Alfonso Lizza	Harvesting energy from vibrations with the piezoelectric effect Desing based on Bi-stable Frequency up-Converter
23-09-24	Jorn Huisman	Analysis of Flexure Tolerances on Repeatability and Virtual Play in Overconstrained Ball Screw and Linear Guide Mechanisms for Selection of Optimal Manufacturing Process
26-09-24	Linghao Zeng	Planar position measurement of a flat object based on distributed fiber optic sensors
27-09-24	Rik Hofland	Design of a fully actuated dynamically balanced 2-DoF gripper
27-09-24	Henrik Lütjering	XFEM level set-based topology optimization considering damage
30-09-24	Hrishikesh Menon	Novel design of robust and lightweight lattice materials
30-09-24	Jasper Verduijn	Effect of multi-frequency vibrations on energy harvester power output and theoretical predictability
30-09-24	Qiuxuan Wang	Towards measuring the resonances of nanopillars through surface acoustic waves

Congratulations!

Meet the Board 45

Tim Kok
Chair

Hi everyone, my name is Tim Kok and I will be the chair for Taylor this year. My job is to make sure everything runs smoothly within the board, keep track of the planning and have a general overview of things. I try to enable my fellow board members as much as possible and help when and wherever that is needed. In my spare time I really like cooking, listening to music or going to the movies. I've played rugby for a large part of my life and I am still in love with the sport even after many injuries. I also like to play basketball and football. My favorite food is biryani, my guilty pleasure is watching obnoxious reality TV and what I love to do most is traveling. This year I will also organize the trip together with Guus, so hopefully we can organize a special experience for you guys!

Stijn de Bruin
Secretary

Hi! My name is Stijn, and until Christmas, I will be the secretary of Taylor this year. You will be hearing from me a lot more, since it is my job to inform you about all the fun and educational activities we are organizing. I'm currently also working hard for my thesis, for which I'll go to the US for six months in January. Somebody will have to take over my role as a secretary after Christmas, maybe that's you? :) Next to this, I really enjoy playing (beach) volleyball, climbing, going to concerts, traveling and cooking. Hope to see you soon at all our activities this year!

Rachel Bakker
Treasurer

Heey guys, my name is Rachel. I will be fulfilling the role of treasurer this year, so mainly keeping track of the money, where it is spent and that the invoices get sent out and paid. I'm also involved in many tasks of the board and I organize the High Tech ladies' nights! I am still finishing a few courses but after that I will start my thesis as well this year. In my free time I play basketball at the highest level in the Netherlands, which means that I am training a lot. But that doesn't stop me from enjoying my Friday nights going out and dancing till the sun comes up! My guilty pleasure is that I watch and listen to maybe too many true crime shows and podcasts.

Guus Tulen
Education

Hi HTE'er! I am Guus. I have the pleasure of being the Commissioner of Education (Major Mustache) of the Taylor board this year. My role is to support you in all things related to your studies. From organizing study sessions to thesis-themed workshops. I do it all. Outside of my life as Major Mustache, I like to make music and I love to surf. Last year I made the choice to delay my graduation project by a year for the opportunity to work, do some nice courses and do the Taylor board! So far I've had a lot of fun organizing study sessions, Taylor Drinks and other activities. Many more to come:). See you soon!.

Laura Graziosi
External affairs

Hi there! I'm Laura Graziosi, your Commissioner of External Affairs for this year. I'll be responsible for managing all communication with companies to secure funding for the exciting and educational events we've planned for you. I grew up in The Hague and moved to the USA after high school, where I earned my bachelor's degree while playing Division 1 field hockey. Last year, I had the chance to meet many amazing people through Taylor activities, so I highly encourage you to join and connect with fellow students and our department!

Outside of my Master's and Taylor, I spend most of my "free" time playing field hockey at a club in The Hague. I love working with my teammates to improve and achieve our goals together. When I have time to relax, I enjoy cooking, especially Italian dishes, and listening to records. A fun fact about me is that back in elementary school, I was inseparable from our previous Chair, Maurita Bloembergen. We had no idea we'd both end up in this Master's program, so it's been great reconnecting through Taylor.

Upcoming Activities

14 NOV | **Precision Fair**

15 NOV | **Course Evaluation**

18 NOV | **Lunch Lecture**
Hittech

20 NOV | **Wine Quiz**

26 NOV | **Company Visit**
Settels Savenije

3 DEC | **Network Drinks**
TWD

5 DEC | **SinTAYLORklaas Drinks**

7 JAN | **Company Visit**
Hittech

8 JAN | **Taylor Drinks**

Taylor Football

The start of a new academic year also means the return of the Taylor Football team! With a lively mix of old veterans and fresh debutants, the squad kicked things off with a practice game that, unsurprisingly, ended in a win. Spirits were high, and the team was determined to work off those (Taiwanese) summer calories and take on the real competition.

However, reality hit hard in the first match, where they came really close but unfortunately left the field with zero points. No worries though, because in the third half the opponent didn't have a chance! What better way to cope than with some important team-building drinks on one of the last sunny Monday evenings?

With fresh determination and a lot of hydration, the team picked up steam, securing 7 points from their next three games. The final game of the quarter turned into a real goal-fest, finishing 11-8. Sadly, not in Taylor's favour. Still, they close the first quarter in 9th place. With more practice matches already lined up, the Taylor stars are ready to climb up the ranks next quarter. Keep an eye on them!

By Niels Dee

Introweek

At the start of the academic year, first-year students were warmly welcomed by the PME department and Taylor. The week kicked off with a presentation introducing the High-Tech department and Taylor at the Mechanical Engineering faculty. Afterwards, a treasure hunt was organized to help students familiarize themselves with Delft and the ME faculty, which can feel like a maze. Not only did this activity help students bond, but the winning team also received a nice prize. The afternoon featured the first Taylor Drinks of the year, enjoyed outside under the warm summer sun.

Throughout the week, presentations on student well-being and different academic focus areas within the High-Tech master were held. Tuesday wrapped up with an afternoon of friendly competition, featuring games like Chinese checkers, beer pong (with water), 30 Seconds, and card games. It was the perfect chance for students to connect in a relaxed setting.

On Wednesday, ASML hosted a case study, giving students a taste of life as a High-Tech Engineering student. Thursday, which was the last day at the Art Centre, was dedicated to working on student programs, with support from staff and second-year students. The day concluded with experiments conducted by the PME research group.

The week ended with a sports day organized by Taylor. Teams competed in volleyball, dodgeball, hockey, soccer, basketball, ping pong, and touch rugby. The winning team was awarded medals and a well-deserved cake.

It was nice to see such enthusiasm from the new students, and we are all looking forward to the exciting year ahead.

By Rachel Bakker

Connect Event

On April 24th 2024, Taylor hosted an exciting lineup of nine innovative companies from in and around Delft, all eager to connect with our high-tech engineering students at the annual Connect Event. From cutting-edge agricultural robots to innovative small-scale energy harvesters, each company took the stage to deliver a brief but powerful pitch, sharing their company mission and vision. After the presentations, everyone gathered at faculty café 't Lagerhuysch for a relaxed and enjoyable dinner. The day wrapped up with networking drinks, where each company set up stands to chat with students, answer questions, and explore opportunities for future thesis projects or job opportunities. It was an inspirational day full of innovation and exciting prospects!

We would like to thank all the companies that joined us for this year's Connect Event, and a special shoutout to Young Hi-Delta for helping make it all possible!

By Tetsuo Martynowicz

Ball-BQ

From court to grill

At the end of May, our previous Taylor board organized the first edition of the Taylor BallBQ. Not even the rain could stop us from competing in beach volleyball and football. The wet courts made things slippery and unpredictable, with plenty of funny moments, falls, and close calls that kept everyone entertained.

After the games, we headed to the Lagerhuysch for a well-deserved BBQ and drinks. The smell of food on the grill was the perfect reward after a day of running around, and everyone had a great time chatting, eating, and relaxing together.

Professors, PhDs, and students all mixed together, showing that our department isn't just about work, it's about people coming together and having a great time.

A big thank you to everyone who came out and made it such a fun day. Looking forward to the next one!

By Stijn de Bruin

TWD

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Taylor

Welcome back Taylor Drinks

The second Taylor drinks of the year saw us welcoming back the second and third year students as well. It was good to see everyone enjoy a drink, some snacks and have fun conversations. Now that everyone is finishing up their courses or starting their thesis it was nice to see them make time for having a drink with their fellow students and meeting the new first years! Also a shoutout to our PhD and postdoc staff who always turn up in large numbers. Hope to continue seeing everyone at the drinks this year!

By Rachel Bakker

Drinks

Taylor Drinks Pubquiz

The third Taylor drinks was a special one, as we hosted a music pub quiz. We were pleasantly surprised at how musically gifted our average PME student is! The quiz featured a number of different rounds with questions ranging from translated song lyrics to one-hit wonders to isolated music instrument parts. The winning team got to take home a very nice prize, the newly designed Taylor mug! Stay tuned for our events this year and you might be the recipient of one of these caffeine containers yourself!

By Tim Kok

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Taylor Trip 2024

Taiwan

This past summer, on July 24th, 24 enthusiastic HTE'ers set out from Schiphol for an unforgettable two-week journey to Taiwan. Before reaching the airport, rumors of possible delays due to typhoon Gaemi had circulated. However, a friendly Xiamen Air representative assured us she would do everything to ensure we didn't miss our connecting flight in Xiamen, China. Thanks to her, we were whisked through security and boarded the second flight, which was delayed, especially for us. After a long day of travel, we arrived safely in the warm, humid Taipei, ready for the adventure ahead.

From Lab Tours to Hot Pot Dinners

We kicked off the first day in Taiwan with a visit to National Tsing Hua University's Institute of NanoEngineering and MicroSystems (iNEMS), where we were treated to presentations, lab tours, and a demonstration by their Eurobot student team. It was amazing to see so many similarities between iNEMS and our own PME (Precision and Microsystems Engineering) department back home—so much so that their main meeting room is even called "PME"! Our day continued with a visit to STMicroelectronics, where we gained insights into Taiwan's semiconductor industry. The evening wrapped up with a delicious traditional hot pot group dinner, setting the tone for a packed and exciting trip.

Exploring Taipei

With the weekend free of company visits, we took the opportunity to explore the vibrant capital city. Our day began at the National Taiwan Museum, home to an impressive dinosaur collection. The afternoon was dedicated to "The Game", where we raced around Taipei's metro system, completing tasks and snapping pictures as proof. The night took us to Wave, one of the city's most famous nightclubs, offering an incredible view of Taipei 101 Tower.

Our fifth day was dedicated to sightseeing, starting with the Dragon Mountain Temple and Chiang Kai-shek Memorial Hall. After some free time, we all gathered at the base of the Taipei 101, once the tallest building in the world. The elevator brought us up to the 101st floor at breathtaking speed, where we enjoyed a spectacular 360° view of the city. Our attention, however, was drawn towards the massive 660-ton tuned mass damper, a brilliant feat of engineering designed to protect the tower from earthquakes and typhoons.

TSMC & Taiwanese Cuisine

On day six we had the privilege of visiting TSMC (Taiwan Semiconductor Manufacturing Company), at their new R&D center in Hsinchu. Even though we couldn't see much due to confidentiality, the presentation gave us fascinating insights into TSMC's operations and company culture. Later, we tried our hand at making traditional dumplings during a cooking class, followed by shaking our own bubble tea—a tasty and rewarding challenge!

Hiking & High-Speed Rails

Our last morning in Taipei began with a scenic hike up Elephant Mountain, offering stunning panoramic views of the city. Then, it was time for a change of scenery. A high-speed train brought us in 2 hours, 300 kilometres south, to Tainan, where we ended the day exploring the Dadong night market.

ASML, Temples, and Fort Zeelandia

On day 8, ASML's training center, where we learned how they prepare their teams and partners, including TSMC, with hands-on training. The afternoon was spent on a "Temple Run", visiting several temples and exploring the historic Fort Zeelandia, built by the Dutch East India Company. We wrapped up the day with a refreshing swim in the South China Sea, watching the sun set below the horizon.

Island Adventures

The last day in Tainan, a ferry ride took us to Liuqiu Island, a popular tourist spot with beautiful caves, coral reefs, and clear waters for diving. We spent the day exploring the island on scooters, diving and swimming, and finally relaxing aboard the "Fun Boat" equipped with all the essentials—floats, slides, and plenty of refreshments. It was a day full of sun, sea, and unforgettable memories.

Juifen & Mountain Hikes

Our final destination was Juifen, a charming mountain village northeast of Taipei. We spent our last few days hiking the Teapot Mountain trail, visiting Shifen, and enjoying the relaxed atmosphere of Jiufen Old Town. The trip concluded with a beach day and a Taiwanese buffet, where we reminisced about our incredible experiences.

Farewell Taiwan

On our last day, we returned to Taipei for some final sightseeing and souvenir shopping before embarking on our journey home. The weather, which had been perfect throughout, gave us a light rain as we departed, symbolizing the end of a beautiful adventure.

The memories, friendships, and cultural insights we gained on this trip to Taiwan are treasures that will last a lifetime.

By Matthias Boerman

Lunch Lecture

settels savenije
group of companies

The first lunch lecture of the year was a busy one. More than 80 of our HTE'ers came to the Eindhoven based engineering company: Settels. The speakers introduced their company in two ways. The first speaker highlighted the structure and the values of the company. The other speaker introduced us to one of their ongoing projects. This was a very nice touch. A small discussion in the lecture hall started to determine what the best plan of action for such a project would be. He talked us through the different difficulties and setbacks they had to navigate as well as the end product. As always, the Broodje Leo was deliciousable enough to make a perfect first lunch lecture of the year.
Thank you, Settels, for showing us your company!

By Guus Tulen

Inter-view

with Nandini Bhattacharya

Cats or dogs?
Dogs

Favourite travel destination?
Italy

Favourite food?
Indian

Guilty pleasure song?
Jerusalema

Where did you grow up?

I grew up in India, my father was a civil engineer and my mother was a Math teacher, actually my whole family was either in science or in engineering. You can imagine that that would lead to some stress and a competitive atmosphere at home. So it was at times tough then but now I am thankful for that. It was fun, the world moved a lot slower back then, I remember playing with the sand and the seashells, no smartphones in sight. In India we lived everywhere and nowhere, because my father worked for the army, so we moved every three years or so. That was quite a challenge to adjust to a different language and culture every time. Actually, Delft is where I have lived the longest now
in my entire life. I also speak four languages because of moving around a lot.

What did you want to be when you were young?

Growing up I really wanted to be an architect, since I admired the old historical buildings. But my father told me if I became a physicist I could understand everything and eventually I fell in love with Physics. I did my bachelor, master and PhD all in physics, but I was always geared towards building things and I did a lot of drawing as well. I really felt like something needed to physically happen for it to peak my interest, not just equations or stuff on the computer.

How different is teaching optics to mechanical engineers as opposed to physicists?

Mechanical engineers build stuff that works, and it is a part of physics, specifically the things that the world is based on, all the big machines and

Student times in Delhi, India

so on. I really like being in mechanical engineering, and the energy of the students, who are really hands on, not stuck in their heads.

How did you end up in Delft and PME?

I did my PhD in India and after that held a postdoc position at the University of Amsterdam (UvA), where I worked with optics ranging from large optical setups to even quantum optics and information. I moved to Delft because I wanted to pursue research in optical instrumentation, building instruments with optical techniques that solve specific problems. For instance, how do you measure the distance between satellites. Then I noticed that they were working on all sorts of optical instrumentation at PME, and I had lots of contact with Marcel Tichem and Gaby Offermans. I had some informal talks with Urs Staufer and Fred van Keulen, and even ended up giving a talk at the department, which everybody got excited about. So they kind of pulled me in to working here. I think what is really nice about this is that the department has such a lose interaction with students as opposed to physics where there is a lot more distance.

What are the main focuses of your research?

My research is focused on three major parts: medical instrumentation, for instance how to measure blood flow in the brain in a non-invasive manner and having that be continuously monitored for example in intensive care units in hospitals. Another main area is the development of novel optical devices, together with Andres Hunt. One of these is a completely flat lens, which is where the manufacturing and 3D printing comes into play. The application of this would be the same as a normal lens but with added functionality. I also focus on interferometry, which is used to measure very small vibrations and this is necessary to make vibration free setups, which are becoming more and more necessary if we want to make even smaller features for devices like our mobile phones.

Could you share something about your research group?

Well in the beginning it was actually just me, then later Sophinese joined. She researches how light makes sounds in tissue and how to measure that to study

An attemp at a Chinese meal

the tissue properties. Additionally we had two PhD students, one postdoc and about ten master students. Then Fabian Maucher joined the department last year. He is focused on the computational side of optics. The cool thing about the group is that we have so many young people which really makes it dynamic and brings in the energy, and the meetings and 'uitjes' are really fun. We are also still looking for the last staff member for the group who is an expert in optical instrumentation, which will then complete our group.

What is the coolest project you have ever worked on?

Well, all my projects are cool of course, but I would have to say the distance between satellite measurement. Using an optical frequency comb, we can measure long distances really precisely up to kilometres with accuracies better than the thickness of human hair.

What are your passions and hobbies?

Well my main passion is my work, but besides that I really love cooking and music, as well as world cultures and philosophy. How people think and form opinions, and that also really ties into my work. We all start having the same common ground, but how are our differences and common ground related and how it all ends up in us having different opinions. I also really like Dutch food, I can make a mean stamppot, my favorite is boerenkool. My family eats the 'rookworst' but I add grilled aubergine or mushrooms for myself. My Indian food used to be better, but now I kind of lost patience with making it. I prefer making Dutch or Italian food, it's a lot easier. But I do have some tips if you want to make a good biryani: it is not necessary to go for the layers, just use a pressure cooker or rice cooker. Fry lots of onions and separately the meat with spices. Then fry the rice in the pressure cooker, add the onions and the meat, enough water and cook it till the meat is tender. Like in a paella the bottom of the rice cooker will caramelize it all nicely. Since I am vegetarian I also make it with mushrooms or fried tofu.

What is on your bucket list?

My bucket list has one main item: bring optics into this university's engineering faculties and build an optics education

Research group

curriculum so that students from every faculty can come here to get their optics courses. We need more well-rounded engineers for the future, for high tech industry, environmental challenges, food supply problems. I want to give this as a present to the students. We are also revamping the curriculum a bit in order to make this a reality.

Could you reveal something about this new curriculum?

Yes, for next year we would like to introduce a course on applied optics. So you will actually be building optical devices such as a microscope or a telescope, and seeing what the effects are of tweaking these optical systems so that you get a feeling for this. We aim to also introduce another more advanced applied optics course that goes more in depth into high-tech instrumentation. Also we want to switch opto-mechatronics to the second semester so that you already know optics and mechatronics and we can go more in depth. We are currently working with Fabian Maucher and Sander Konijnenberg to get the Applied Optics course running for next year, and of course I will be running the lab experiments.

Do you have a general message for our students?

Stay curious and explore. If you see something and you are like: "I don't know anything about it", go find out how it works! Your student time is the best time to be curious so use that to explore the world and enjoy doing the things you want, before work, career and life comes to wear you down.

By Tim Kok

My family

Network Drinks

Quooker®

In mid-September, Quooker visited our PME Square for a social and engaging Network Drinks event, offering us a glimpse into their dynamic work culture. They began with an interactive presentation, followed by a fun pub quiz that gave us a better understanding of what it's like to work at Quooker. The winning team even got a nice goodie bag!

With a team of 500 dedicated colleagues, Quooker is constantly innovating their tap that does it all, while also developing new products. They proudly manufacture everything in their own factory in Ridderkerk, where they even design and build their factory machines. Their technical teams include R&D, Quality, Manufacturing, Engineering, and Automation, each playing a crucial role in their success.

Beyond the technical side, Quooker also emphasizes a strong team spirit, offering employees a range of enjoyable activities such as company trips abroad and sports events to keep things lively and collaborative.

After the presentation, we had the chance to connect with the Quooker team even better over a selection of Dutch and Belgian specialty beers, making for a memorable and insightful evening.

by Stijn de Bruin

Ladies Night

Pizza and Drinks

In early October, we kicked off the first High Tech Ladies Night of the academic year - and what a night it was! After a long (yet somehow too short) summer break, we had plenty of catching up to do. And what better way to reconnect than with a combo of pizza, drinks, and snacks?

The room was full with familiar faces, but we also welcomed some new first-year High Tech Ladies into the group. Between bites of XXL pizza, conversations jumped from holiday highlights to discussing thesis subjects. Then came the highlight of the evening: a chaotic game of 30 Seconds, where teamwork and creative thinking were put to the ultimate test.

Some of the most memorable descriptions? Like when "types of electric currents" became... "AC... DC!" (yes, as in the band!) or when "season combined with a certain position" led to... "Summer of '69!"

After some good laughs and competitive rounds of 30 Seconds, the night eventually came to a close. But don't worry, more of these nights are coming! The next High Tech Ladies Night is already planned for next quarter. If you're a High Tech Lady and don't want to miss out on the fun, just scan the QR code to join our WhatsApp group. We hope to see you at the next gathering for more great times!

By Rachel Bakker

PM.nl
DISCOVER PRECISION

Company Visit

Only on the morning of the trip did I learn that the high-tech company PM was located 2.5 hours away from the heart of TU Delft, near the university SPAR. Thus, we had a nice bus drive ahead of us, where we all learned to tie a tie again, and we tried to win a Taylor mug by completing a puzzle.

We were received with a lunch and presentation about PM. It started off in 1966 producing linear crossed roller bearings but now also makes fully working positioning systems, like for wafers (maybe ASML should hear about these guys?). We then got a really nice tour through the production halls and office.

Basically, for every process step, there is a designated room, like the drill room, the mill room, or the furnace room. Yes, the furnace room, still fueled by charcoal btw. The assembly room was next to the hallway, so you could see the workers assemble all the tiny balls or cylinders for the linear bearings. They also have a cleanroom, where they assemble the wafer handlers. The office looked nice too.

We had to leave quite early to make up for the incoming traffic jam(s), which did not work too well. In the end, it is a nice high-tech company with opportunities to grow, although a little far from Delft.

By Jesper Klomp

Lunch Lecture

On 8th October, VDL Enabling Technologies Group Eindhoven hosted a lunch lecture for our High-Tech Master's students. As the presentation highlighted, a key advantage of VDL is their ability to consolidate all processes under one roof, which greatly enhances the engineers' workflow. They boast both a robust R&D department and a wide array of advanced manufacturing equipment, significantly shortening the steps between design, prototyping, validation, and production.
Additionally, a design case of the wafer handler, used in ASML machines, was presented. The intricate challenges involved underscored just how deeply high-tech engineering is embedded in VDL's company culture. A couple of prototypes were shown, to further enhance the understanding of the mechanism and to get a feeling of the size and complexity of components.

We extend our sincere appreciation to VDL for sharing their values and knowledge with us.

By Giulio Campioni

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.

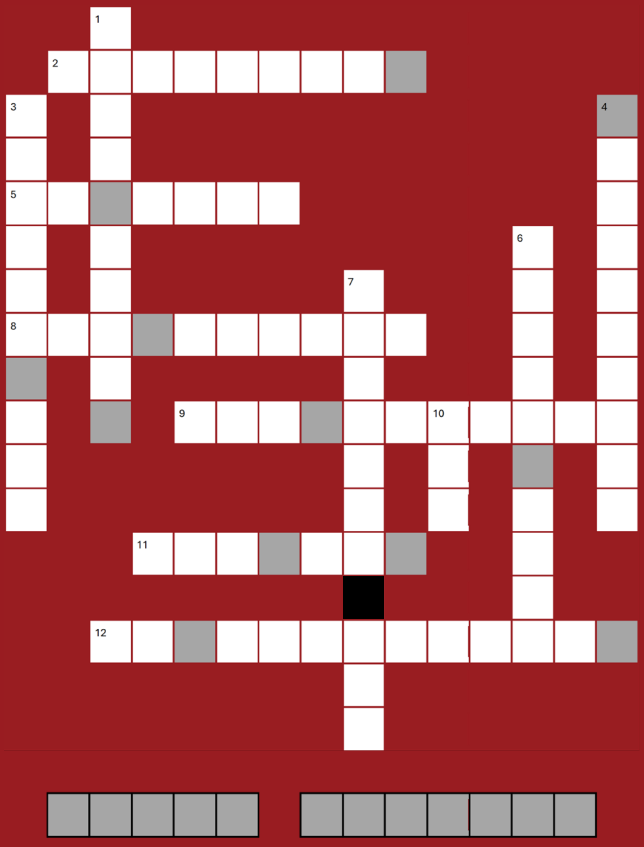
Puzzle Win a Prize!

Horizontal

2: A mechanism of heat transfer
5: Most prevalent element in semiconductors
8: Statistical method to determine relationship between variables
9: A change in a system's qualitative behaviour
11: Type of plot made for stability analysis in control systems
12: Effect that causes changes in electric charge when mechanical stress is applied

Vertical

1: What determines the color of light
3: Dependence of the state of a system on its history
4: The opposite of stiffness
6: Technical term for a beam supported at only one end
7: What describes the doubling of transistors every two years?
10: Taylor's logo is inspired by this High-Tech device



Think you've got the answer? Stop by our office! Be the first, and the prize is yours!

HEY YOU

Do you have an idea that will enrich your TU Delft study experience?

FAST stands for Funding Ambitious Students TU Delft, which is exactly what we do! We offer funding in the following categories:

- **Study & Research**
- **Competition & Conference**
- **Events**
- **Ambitious Project**

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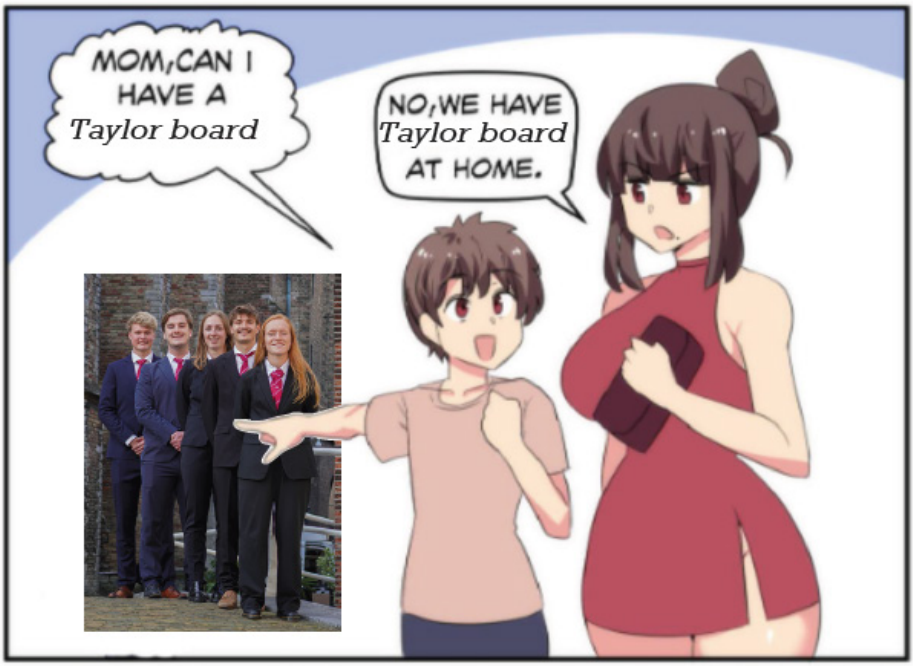
AnoMEMEous



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!