

Taylor Vision



Kick-off '20-'21





About us

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Edition

No Taylor trip edition, October 2020

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.



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From the board

Dear reader,

Welcome to the first Taylor Vision of the academic year of 20/21, we hope you all enjoyed your summer and the first weeks of the new year! As you might have noticed, things are a bit different than usual this year, although this has barely influenced the amount of new students that we welcomed to our department. With 100 new students starting our masters' track, we're convinced that this will again be a great year with increasingly cool activities and ever improving (online) education!

In this Taylor Vision 2020/2021 kick-off, we'll take some time to get you up to speed with what has (and hasn't) been going on in the department in the past few months. Obviously, one of the major things that had to be cancelled this year is the famous Taylor Trip, so we'll provide you with a summary of previous trips to warm everyone up for this year's edition!

Of course we'll also highlight some of the activities that were still possible, like the introduction week and some recent cool activities by the new Taylor board.

Speaking of the new board: you might have noticed that there are some new kids on the block, who will introduce themselves somewhere later on in this Vision.

For us on the other hand, writing this Vision is our last official deed as the 19/20 board. Hence, we would like to thank you all for your participation, support and enthusiasm over the past year! When we look back on our year as the Taylor board, what stands out is the support that we got from staff throughout the whole department, who were always willing to help us and provide us with feedback about our events. A big shout out to the students as well, who put a lot of energy into actively attending our events which resulted in large numbers and a great atmosphere. Even though a lot of our events were cancelled and our year ended a bit calmly, we had a great year from which we learned a lot!

We wish you, the reader, and the new board the best of luck in the new academic year.

Cheers and '19/'20 out,

Bas Roulaux





PME News

The best news that the department could receive in these times, is again a large amount of first-year students this year! We were able to welcome 100 new master students this year, originating from 13(!) different countries (excluding the Netherlands). We're also happy that the introduction week was allowed to take place partly in real life, with a consistent score of 75 students joining via live stream every day as well!

The PME staff, together with the Taylor board, is hard at work to organize more real-life gatherings within the government limits as well. As you might know, the on-campus mornings for first-year students have already started on Tuesdays, but it is being investigated whether these initiatives can be held more frequently and if second-year students can be included. Keep in mind that if you're struggling with finding the right place, time and way of studying, you can always contact Eveline or the Taylor board for help and suggestions.

The Taylor board is ever hard at work to organize corona-proof activities for you as well. You might have attended the first online Pub Quiz of the year, which was great fun and possibly more will follow! Another cool initiative is the Taylor Cycling group, in which a bunch of cycling enthusiasts go on weekly rides. Anyone can join, so if you like being outdoors on two wheels, sign up if you haven't yet!

Bas Roulaux





Recent graduates

The following students have recently graduated from PME, congratulations to all!



Bas Kieft, MSD

Proposed solutions for quantization induced performance deterioration in reset controllers

Thomas Soek, MSD

Spatial flexure elements in a compliant motion stage

Mark Bons, SOM

Gear repair using Laser Metal Deposition

Meindert Ras, SOM

Design, fabrication and assembly of a flapping-wing with integrated compliant hinge

Coen Bakker, SOM

Simultaneous optimization of the topology and the layout of modular stiffeners on shells and plates

Milan Vermeulen, DMN

Dynamics of a machine tool cross-slide

Aldo Sebastian, MSD

Augmented Fractional Order Reset Control: Application in Precision Mechatronics

Gijs Becht, MSD

Synthesis of Inherently Moment Balanced Robotic Manipulators





Caspar Banis, SOM

A study on energy efficient flight manoeuvres of mechanical insects, effectuated by local structural changes

Michiel Zult, MSD

For Smartphone Microscope to Diagnose Malaria in Developing Countries

Marnix Ackermans, MNE

Direct or Indirect? Unraveling the Bandgap Nature of Metal Halide Perovskites

Romme Koldenhof, MSD

Electrochemical sensing and electrochemical advanced oxidation treatment of nevirapine using micro- and nanocrystalline boron doped diamond electrodes

Tim Wubbe, SOM

Applicability and challenges of automated design approaches for thermos-fluid components

Tom Strebus, MSD

Smart magnetic fluids: controllable, distributed, fluidic actuators

Haoyu Zhu, MNE

Integrated organ-on-chip platform using off-the-shelf components

Jishnu Suresh Subramonian, SOM

Flight control simulator using optic-flow Hardware-In-The-Loop (HITL)

Lars Musters, MOOM

Concept design of a next generation Schottky field emission gun with improved operation and beam stability

Dies Mulder, MSD

A coaxial negative torsion stiffness mechanism developed for compact gravity compensation

Sebas Siers, MSD

Design of a fluorescent measurement setup for compliant hydrostatic bearings

Mridul Gandhi, MSD

Novel designs to improve support stiffness during large strokes in compliant mechanism

Madhan Gopal Muruganandam Mallur, MSD

A comparative study on distributed active damping of flexible systems





Introduction week

The first week of the new college year started off with an amazing introduction week. Due to the great effort of the staff, all the freshmen High Tech Engineering master students got the opportunity to enjoy an intensive day at the Arts Centre in Delft. Not only was it nice that all of you got to meet and connect with some fellow students, but were also treated with some delicious catering that made you regret to have eaten breakfast in the morning. Despite the fact that working in groups through half zoom and half real life was not the most efficient way of designing a Lego Mind Storms project, every group managed to put in their most effort and came up with some innovative designs! At the end of each day, the Taylor board prepared some fun to test the drawing skills of the want-to-become engineers in an attempt to prepare for all the Scribble.com sessions to come. Still no one understands how a monkey that comes out of a sleeve could be misunderstood for a giant baby head falling out of a monster. Or was someone stirring up the pot? No worries, all the drawings are safely kept in the Taylor office! Also, a lot of people signed up for the Taylor football team, and the first rumours about the Taylor Cycling Club were spread. We have had great laughs all week and hopefully everyone enjoyed their day together and brings the good spirit into the course period!

Myla van Wegen







Taylor trips archive

Back in the days, we were allowed to travel and discover what the world had to offer PME students. To bring back some of those happy memories, take a look at the following well hidden memories! From top to bottom, left to right: England 2006 - Sweden 2000 - Germany 2008 - Germany 2011 - Canada 2016.

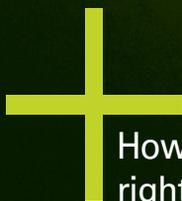
Emma Hoes







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2018 USA

Although over the last years it could be concluded that due to a small Philips spin-off, Eindhoven has taken over the lead of the main silicon tech hub of the world, no-one would deny that Silicon Valley was the area to go a couple years back. Taylor chose the famous Bay Area as location for the student trip of 2018.

What started as a solely educational trip, it ended as a week packed full of amazing companies, leading universities and lots of fun. The most powerful lesson learned that week was given by our favorite professor who joined the trip, on how to manage your drinking behaviour at a conference, where unlimited draft beers are available. Following that, visiting the longest linear accelerator in the world and one of America's top universities was also very informative.

The first company visit was hosted by Surgical Intuitive. Although the name is not very known in the Netherlands, they develop the Da Vinci surgical robot. An extremely advanced robot which basically can copy the arm movement of remote human-surgeons 1-to-1, a very cool innovation.

A big question of the trip was if the famous universities could live up to their name. But they did. The Advanced Light Source, which looks like a secret nuclear factory built upon a hill, was very interesting. The campus of Stanford can be compared to an ancient Roman village, however their high-tech projects were so cool a great part of the students were willing to start working there right away.

After a couple of very interesting American companies the students were looking forward to something more Dutch. Luckily VDL invited Taylor to their office and gave an interesting presentation. The students even ended up in a bar with guys from VDL, enjoyed some beers and talked about internship and job vacancies.





Now it was time for tourist time. The visit to the Alcatraz prison at a small island in the Bay was very fun, especially the stories about successful or unsuccessful escapes. Sadly, departure day came, however the group can look back on a very fun and great trip!

Guido Mous





2019 South Korea

To give you an idea what this years' Taylor Trip could look like, we'll start with our most recent journey which brought us to South Korea!

During the 10 days that we spent in the capital, Seoul, we managed to visit a lot of companies and cultural sites while still having plenty of time to enjoy ourselves with the abundant nightlife that Seoul has to offer.

Our first days in Seoul were packed with action, as we were invited by two Korean technical institutes (KIMM and KAIST) for a nice tour around their facilities and main projects, with a traditional Korean lunch in between. The absolute highlight of the day was a tour in the Eco-friendly magnetic levitating train by KIMM, which proved to be an excellent piece of engineering!



After our exciting first day, we visited something a bit more familiar: the Dutch embassy in Seoul. A nice gentleman named Peter gave us a crash course in Korean customs as he had been living in Seoul for over a decade, where he told us a lot about the pros and cons of living and working in Korea. We had a very open discussion afterwards, which gave us some very cool insights!

Of course our trip wouldn't be complete without some Korean student insights. That's why we spent an afternoon in the Seoul National University. Here we enjoyed a tour around the campus and some student projects, talking to students about how they experienced student life in Seoul!

During our first day off, we visited some older engineering projects, like the Gyeongbokgung Palace, which dates from 1395. The large complex was impressive enough to spend the full day, but there was a lot of other interesting stuff around!





After a stroll around the area next to the palace, we went to the Dongdaemun plaza, which is quite the opposite from the ancient palace that we visited earlier. Looking like a giant metal blob with a park on top, this place was a nice example of the combination of history and futuristic technology that South Korea has to offer! We ended the day by having some Korean street food in Gwangjang market (featured on the Netflix series ‘Street food’) and karaoke, of which our ears and throats are still recovering. On the next day, some of us chilled out in a huge mall with an amusement park inside it, while others ventured into nature to explore a nearby mountain.

A slightly more serious cultural event was our tour to the DMZ (demilitarized zone) between South Korea and North Korea. During this tour, we were introduced to the long-time and still ongoing conflict between these two countries. This included a tour through a former tactical tunnel and of course a visit to the actual border. The tour guide was surprisingly open to all our questions, so the tour gave us a proper insight into the conflict and even helping us with better understanding the recent developments that are shown in the news!

On the last few days of our epic journey, we went to Samsung and HP, which were both located on a huge campus with many tech companies. Even though the tours around these facilities were somewhat superficial, it was very interesting to see how these large companies present themselves towards visitors and to see their views on the future of the technologies that they are developing.

In short, this trip gave us a unique insight into a country that none of us really knew a lot about. The kindness of the people, the combination between high-tech developments and historical sites in Seoul and beautiful nature just outside the city made it an unforgettable experience with a very cool group of people to share it with!

Bas Roulaux





Online Quiz

In a word, it was amazing for me. Although it wasn't a physical event, I believe the Taylor board managed to really make the online event entertaining for us. Personally I learnt that I'm good at two things- identifying the names of companies from parts of their logo and remembering the interests and habits of Taylor Board members, which I got to know from communicating with you all. We messed up really bad at the music and numbers sections, but my partner was still proud of me of taking the "Royal Dutch Indians" to the 8th spot.

The games at the end of the session were really fun. We were divided into groups of 4-5 in respective breakout rooms with the board members. It might come as a surprise, but I've never played skribble before!! So naturally Jan and Stan looked like Gods of this game to me. They were literally able to guess the words with almost nothing on the board, as if they were upto some Dark Magic and Illuminati stuff. But overall I had a lot of fun.

I hope we'll have more such events in the near future, even physical ones if the situation gets stable. Apart from fun and games, I really believe these help in mitigating the homesick and lonely feelings for us Internationals, that comes from staying in the confines of our room in these turmoil times.

Thank you!

Gourab Chakraborty





New Taylor Board



The new chairman of the Taylor board is Mr. Resink or maybe easier for you just Jaap. This man likes to look for danger, because instead of staying in the safe far North of the country he moved to the Randstad where COVID can be found everywhere. After doing his Bachelor in Groningen and a premaster in Delft he has started his master High-Tech Engineering in 2019, but no he doesn't start in the first quarter. Jaap likes to begin his master in the second quarter, because why not right? After finishing that year he decides to do something more within the master and he applies for Taylor. When we were deciding who will fulfil which roll in the board, he instantly calls dips on chairman. Not a big deal because he was the only one who wants to be the chairman, but I think he is also the right person for this title. He knows when to be serious and when there is room for a joke. I believe Jaap can guide us through this difficult COVID year.



Matthijs about Jaap





This year's secretary will be nobody less than our own Jan van Rijn! For many a friend or board member better known as "Janus" (don't ever tell him I told you).

As a first glimpse in the early days of the board, where the 3 other gentleman from the board wore a white blouse to the photo day on the department, Jan came in a greenish denim like blouse, captured on photograph while the coffee card was still hanging from his right-pocket. Learning that ironcraftsmanship runs in the family, you can undoubtedly imagine that the title of "beunhaas" as we like to name it in Dutch, was taken for the rest of the year. Talented as he is in the field of communications and with a drive that affects the whole board, the title of secretary has found it's rightful owner for this year. Jan will be the one to bother each and every HTE student in a friendly manner for the coming year, until he/she has registered for the first planned activity of Taylor at that moment. Cooperate and join our amazing activities, or be forced to disappoint Jan (and the rest of the board). For the folks on Monday known as Captain soccer, for the department he'll be known as captain Secre-Taylor. Jan, glad to have you on-board!



Jaap about Jan



Stan, also known as StaneyMoney, also not so known as Stacy (in our attempt to make the Taylor board more feminine) are some names our Keeper of the Coins responds to. With his immense length, no one dares to crack the code to the Taylor safe without Stan's permission. And if, in the very unlikely case, someone manages to throw money over the beam, his always enthusiastic smile will make way for a serious and responsible face to ensure something like that will not happen again. Then, after a maximum of ten seconds or so, he will go back into his natural and

appearance and have a good laugh about Jaap his bus driver tie, Matthijs his rowing skills, Jan his length or Myla her Boeren Bridge score. Next to his great humour and funny stories, Stan has proven to be excellent in keeping his eyes peeled for opportunities to drink a nice cold beer and will always be up for a Burgundian port tasting evening, a cycling trip through the dunes with the Taylor crew or just a good old chat at the coffee machine. For these reasons, he promises to be a great Treasurer of the Taylor board will ensure that the Taylor trip will be one to remember!

Myla about Stan





As the only girl in our Taylor board, Myla has the questionable task to keep all of us boys in check. No doubt she will be doing an amazing job at it with the great deal of enthusiasm she always brings.

Emylio, as she is called by her fellow board members, is always busy. If it isn't with Taylor it could be rowing, cycling, bouldering or her work at a start-up. In the coming year she will be doing the honours of commissioner of internal affairs. In this capacity she will make sure that all courses are kept at the high standard that we as students and the staff themselves expect from the PME department. She will organise the quarterly course evaluation session, but don't hesitate to contact her if you have some tips and tops about one of the courses that you are following right now!

Stan about Myla



Matthijs, also known as Mathusu or Curry, is our new commissioner of external affairs! He will be maintaining and renewing relationships with the companies. Your lunch lectures, workshops and excursions (when it is finally allowed again) are arranged by him. In contrary to this serious business, Matthijs brings the fun in the group. If you hear someone roaring with laughter during an activity, it is probably him. Besides his passion for Taylor and his sultry looks, Matthijs is a real 'closet'. He keeps himself in shape in the gym several times a week and plays water polo, and after the winter break you will be seeing him on a racing bike!

Jan about Matthijs





Jorans Puzzle Paradise

Last puzzle of the year and what a blast it's been. I've decided to finish in style, with something that's called a 'Letterraam' in Dutch (literal translation: letterwindow). The goal is simple, you must add the letters T, A, Y, L, O and R to these squares. To do this properly you must follow these rules:

- Every column and row can only have exactly one of each unique letter
 - Subsequently every column and row will have exactly one blank space
 - The letters on the side of the square tell you which letter you encounter first when looking from that side (a blank space could still be in front of a letter though!)
- Even though it was cut short, it's been a great year as Taylor board and I hope to see you all in the future!

If you got the correct answer don't forget to send an email to taylor-3me@tudelft.nl! If you get a price, is up to the new Puzzle-King Board member.

	O	R	T	Y		
A						T
A						R
R						Y
T						L
L						O
	T	A	R	T		

	Y	T	T	A		
O						L
A						R
R						L
R						Y
	Y	O	A	O		



