



2021-2022

Issue 3

# MaChTazine

Materials Science &  
Chemical Technology

## XL



## Bowling Night

22 November  
Overpoort Bowl

# Introduction

Hey everyone,

This time we have a special XL version of our MaChTazine for you. In this MaChTazine you can find a lot of interesting facts about bowling, music, movies and some autumn (or is it fall?) specials. This XL version also contains information about internships from our sponsors so that you can browse through them and find the internship of your life!

Last but not least there is also a new puzzle for company of the month. Everyone who submits their (correct) solution will have a chance to win an awesome prize offered by Alvance and believe us, it is worth it to always take a chance by solving the puzzles ;-).

Your MaChT Press—Felix & Tessa

## Overview of coming events

On Monday 22 November, there's the MaChT **Bowling Night**! Show us your best bowling skills at the Overpoort Bowl and win eternal admiration of your fellow students.

The last event of this semester is the **Cake Day** on Tuesday 14 December. The concept is easy: free cake for all MaChT members, PhD students and professors.

Finally, we already want to advertise our largest event, namely **MaChT meets the industry** on 23 February 2022. The concept is the same as last year: you can speeddate with our sponsors, but hopefully this time it is possible in real life. The perfect opportunity to get info about internships, application procedures or the general goings of the company. As always, there will be free drinks and appetizers. More info soon...

<b>Bowling Night</b>	Show us what you got!	22 November 2021
<b>Cake Day</b>	Free cake for all MaChT members!	14 December 2021
<b>MaChT meets the industry</b>	Speeddate with our sponsors with free drinks and appetizers.	23 February 2022

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PAPIER&CO



# Next event: Bowling Night

**CTSE**  
EXILES

**SMS**  
SUSTAINABLE MATERIALS SCIENCE

## Bowling Night

Spare an evening to strike up a good time!

**Monday 22 November 2021**

Starts at 20:00

**Free! Limited Spots!**

Register online:



**!FULLY BOOKED!**

(QR code, or [bit.ly/machtbowling](https://bit.ly/machtbowling))

**Overpoort Bowl**

Overpoortstraat 38  
9000 Gent





# The Pasta Night was a success!

The Pasta Night was a great success and we want to thank everyone who was present! We especially want to thank all of our volunteers because without them it would not have been possible to do all the work!







# How to score a strike?

- ♣ Start with the **right ball**

Do not use a ball that is too heavy just to show off your muscles. Go for the one that suits you best.



- ♣ Try to throw a **hook**

The hook is a bowling technique where you hit the pins at an angle instead of hitting them straight.

- ♣ Choose the right bowling **shoes**

You don't want to have sore feet after a night of bowling but you also don't want them to fly away to the pins like a bowling ball because they are too large.



- ♣ The **secret steps** are:

1. Hold the ball with your palm facing the ceiling, supporting it with the upper pad of your hand and your wrist, which must be stiff. Your fingers should not grip the ball. Your middle fingers should be sunk into their holes one knuckle deep. Rotate the ball counterclockwise until your thumb is positioned at the back of the ball, at six o'clock. Keep your right elbow pressed to your rib cage.



2. On your backswing, keep your arm close to your body so that when your arm comes forward, your elbow grazes the side of your torso. Keep your wrist stiff and your forearm facing forward as the ball comes through the "power zone" and passes your front foot.
3. At release, flick your wrist as you might flick a Frisbee or throw a football underhand if you wanted it to make a perfect spiral, using your middle and index fingers not to throw the ball but to help impart the spin so the ball tilts on its axis. Follow all the way through, and when the pins explode try to act cool.



♣ You just have to **PRACTICE!**

Because practice makes perfect!



The face that all of your friends make when you bowl a strike.

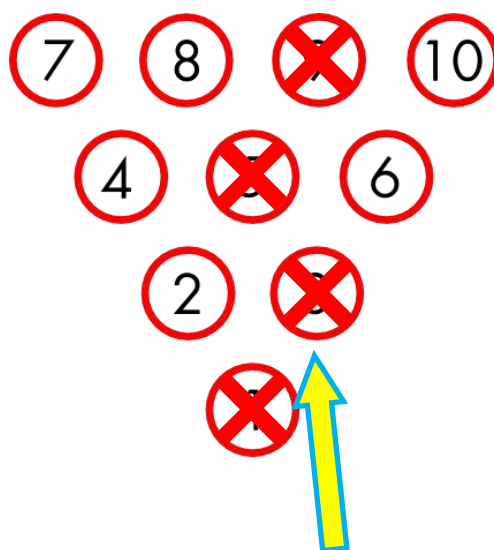
Sources: <https://www.gq.com/story/how-to-bowl-a-perfect-strike>, <https://pinchasers.net/blog/how-to-get-a-higher-bowling-score/>

# Fun Bowling Facts!

1. Bowling goes all the way back to ancient Egypt. Bowling items were found in Egyptian tombs that have been dated to 3200 BCE!
2. The heaviest bowling ball legally allowed by the US Bowling Congress is 16 pounds (7.25 kg). However, back before governing bodies for bowling existed, bowling balls could be as heavy as you wanted! In fact, there is a 35-pound (15.88 kg) ball that you can see on exhibit at the Bowling Museum of St. Louis, Missouri.
3. Speaking of regulations, the maximum number of holes allowed in a bowling ball is 12. Just in case you have 12 fingers, you know.
4. The optimal strike isn't when the ball hits the front pin straight on, but occurs when the ball approaches the pocket (between the 1 pin and 3 pin) at a 6 degree angle. If it is thrown exactly perfectly, the bowling ball only hits 4 pins: 1, 3, 5 and 9. So in order to bowl a perfect 300, you only need to hit 48 pins!
5. If a pin tilts at least 9 degrees, it will always fall.



According to the Rosetta Stone, the feather translates to spare, and bird translates to strike. Totally real fact.





# Bowling Movies to Watch

## Dreamer (1979)

IMDb rating:  /10

An aspiring professional bowler dreams to win a Tournament of Champions and buy his own lanes. He's a dreamer, but the woman he loves can't "spare" the thought of being the second most important thing in his life.

## Kingpin (1996)

IMDb rating: **6.9/10** but "Kingpin 2" got a 3.1/10 so that's a spare

A comedy starring Woody Harrelson sees him as an impoverished former bowler who has seen better days. One day he discovers an Amish bowling prodigy and hopes to ride him to success and riches!

## The Big Lebowski (1998)

IMDb rating: an unironically good **8.1/10**

This classic film directed by the Coen Brothers is about Jeffrey "The Dude" Lebowski, a slacker who just wants to play bowling all day, getting mistaken for another Jeffrey Lebowski, which leads him down a crazy fever dream of events. So make yourself some non-alcoholic White Russians and settle in for a great film!



## Alley Cats Strike (2000)

IMDb rating: **6.1/10**

High school rivalry? Check. Retro 1950s vibe? Check. Penny from *The Big Bang Theory*? Sure, why not! All that and more in a Disney Original TV Movie, so you know it's a nostalgic time.

# Internships via UGent

Winter is coming, the perfect time for all 3rd bachelors and 1st masters students to start looking for a summer Internship. Yeah, an internship, I heard something about that but I am a little lost. No problem, the faculty of engineering and architecture summarised all the necessary information under the following site:

<https://www.ugent.be/ea/nl/faculteit/studentenadministratie/stage>

But watch out! It is possible that the practicalities of internships at the UGent will change for next year. The right information about the practicalities will be communicated by the UGent itself.

Why doing an internship? There are a multitude of reasons, an experience abroad, earning credits, soak up the atmosphere of a place you want to work, getting some industry experience, etc.

Still in doubt? On our MaChT site you can read some testimonials of internships at our sponsors.

<https://macht.ugent.be/internshipreports/>

In the next pages we offer you the opportunity to browse through the opportunities offered by our sponsors. It must be noted that some sponsors offer their internship opportunities later during the academic year (January—March). You can always ask them more about their internships at MaChT Meets the Industry!

If you are still in doubt about doing an internship, you can always ask questions to someone of the board about their experiences at one of our next events.







## STAGE

### Voor materiaalkundige/chemische ingenieurs

#### Wat is er zo speciaal aan aluminium?

Aluminium is sterk, licht, duurzaam, flexibel, extreem veelzijdig, ondoordringbaar, corrosiebestendig, een uitstekende geleider van elektriciteit, niet magnetisch, niet brandbaar, een overvloedig element in de aardkorst en oneindig recycleerbaar. Aluminium heeft een onbegrensd potentieel om deel uit te maken van oplossingen die de maatschappij vooruit helpen. Het gaat erom de vrijheid van mensen en bedrijven in staat te stellen een betere toekomst te creëren door innovatief gebruik te maken van de veelzijdigheid die aluminium biedt.

#### Je werkveld

Aangezien het innovatiecenter gelinkt is aan de fabriek is er een hechte samenwerking tussen R&D en productie. Wij kunnen jullie alvast een inzicht bieden in verschillende mogelijke functies waar een ingenieur in de industrie terecht kan komen (R&D, kwaliteitsdienst, technische klantenondersteuning, procestechnologie, etc.)

Wij kunnen jullie ettelijke interessante topics aanbieden om te onderzoeken zodat onze producten nog beter worden.

Enkele voorbeelden zijn corrosie-onderzoeken gekoppeld aan elektrochemische metingen, MSA-analyse van bepaalde meetapparatuur, in kaart brengen van de invloedsfactoren op kleur en glans van geanodiseerd materiaal, effect van manier van afschrikken na gloeien op mechanische eigenschappen, etc.

#### Jouw taken en vereisten

- Informatie vergaren, zowel uit literatuur als via medewerkers, meestal gekoppeld aan labotesten of bijwonen van industriële proeven.
- Analytische ingesteldheid en systematisch kunnen werken in teamverband.
- Goede talenkennis van Nederlands en Engels, aangezien we een internationaal bedrijf zijn.



## ALVANCE

#### Interesse?

Stuur dan je CV t.a.v.:

- **Els Verboom** (Manager R&D),  
[els.verboom@alvancegroup.com](mailto:els.verboom@alvancegroup.com)
- **Ria Van den Broeck** (Manager Process & Product Technologie),  
[Ria.van.den.broeck@alvancegroup.com](mailto:Ria.van.den.broeck@alvancegroup.com)

#### Alvance Aluminium Duffel bv

*Alvance Aluminium Duffel is een Europese leider in de productie en verkoop van aluminium walsproducten voor verschillende industrieën wereldwijd. Het beschikt over de allernieuwste technologieën, waaronder de breedste automotieve koudwals in Europa en CALP (Continuous Annealing Line with Pre-Treatment). Wij bieden aluminiumoplossingen voor verschillende eindgebruiksindustrieën, waaronder architectuur & ontwerp en automobiel.*

*Het Innovatiecentrum in Duffel, België, richt zich dan ook op segmenten van de automobiel- en industriële sector*

## GOESTING IN EEN STAGE?



ArcelorMittal

### Weetje

Meer dan 300 studenten hebben we in het schooljaar 2020-2021 mogen begeleiden bij stages, projecten, interviews, eindwerken en thesissen



### Wat bieden we?

- Een zeer goede stagebegeleiding door de beste mentoren
- Een aangename werksfeer in een hoogtechnologische omgeving
- Uitdagingen die je nergens anders vindt als stagiair
- Een flexibel uurrooster
- Gratis busvervoer voor de studenten uit Gent
- Een kans op een vaste job bij ons
- ...

### Wie zoeken we?

Studenten uit een technische richting die zin hebben in een uitdaging tijdens hun stage/thesis

Neem een kijkje op [belgium.arcelormittal.com/stages](http://belgium.arcelormittal.com/stages)



GEEF JE WERELD VORM



## From 'burgie' to BASF'er

Looking forward to explore exciting projects as a future engineer?  
Want to discover the challenges the chemical sector has got to offer?  
Then an **internship at BASF Antwerpen** might interest you!

Our fellow engineers will be happy to tell you in detail about all of our internship opportunities at the VTK Internship Fair, November 29th.

See you there!



Get to know us

Internship fair 29 nov  
VTK Gent

Apply:

[werkenbijbasf.be/stages](https://werkenbijbasf.be/stages)

Interviews:

feb '22



Let's stick  
together

Challenging internship  
Summer '22



We'd like to get to  
know you



At Borealis, we are pleased to offer each year a number of internships for students who dream of working as a Process or Production Engineer after their studies. Also for the summer months in 2022, we are evaluating the possibilities for interesting assignments. The internship takes place in one of our production plants: Low Density Polyethylene Unit (Zwijndrecht), Polyethylene Compounding Unit (Zwijndrecht), Propane Dehydrogenation Unit (Kallo) or our Polypropylene Unit (Kallo). During your internship, we will support you in successfully completing your training and help prepare you for a career as an Engineer.

Are you curious about how an internship at Borealis works? We asked one of our interns from last summer:

*“While corona definitely influenced the small amount of people present at the office, I was still able to feel the warm and great working atmosphere from the people at Borealis! As an intern, I never had the feeling being a burden to someone. On the contrary, lots of people were happy to help me with my work and share their knowledge and experience. Trouble with trying to read a P&ID, for instance? There was always someone to ask for a little help.*

*Being ‘part of the team’ during a month really was the biggest experience for me, independent of what my internship project was all about. But to give you an idea what you could expect as project, mine was a study concerning flaring reduction of one of the plants at Borealis Kallo. As you can see, this is not a minor problem, but one that is of major interest in every chemical plant. So don’t expect to get a small unimportant task, because you are just an intern. You certainly won’t have time to get bored. I really learned some new skills during my internship, even skills I never thought of on beforehand, like having and preparing meetings with vendors.*

*As last year’s intern, I can only recommend Borealis and thank them again for the opportunity to have this instructive lifetime experience.”*

Are you excited to be part of our team after reading all of this? Register now via our website (<https://careers.borealisgroup.com/>) and set up an alert to inform you when the internships are posted for applying.

We are looking forward to meeting you. Best of luck and see you soon!





## Ontdek Covestro & onze stages

Wij zijn Covestro, een van de grootste polymeerproducenten ter wereld. In de haven van Antwerpen maken we al meer dan 50 jaar hoog-waardige materialen, zoals de hightech kunststof polycarbonaat (Makrolon®), en ook aniline en polyether die door andere industrieën tot polyurethaan worden verwerkt.

Volg je een opleiding Master in de Ingenieurswetenschappen of Master in de Industriële wetenschappen (chemie, materiaalkunde of elektromechanica) én heb je interesse in een (zomer)stage? Aarzel dan niet en contacteer ons via [StageAntwerpen@covestro.com](mailto:StageAntwerpen@covestro.com)

We bieden stageperiodes aan in Engineering (Process Technology, Engineering), Operations en Maintenance. Graag je voorkeur, de stageperiode en je doelstelling vermelden.

Ook wanneer je voor een project een beroep op ons wil doen, bekijken we graag hoe we kunnen samenwerken!

[www.covestro.be](http://www.covestro.be)

[www.career.covestro.com](http://www.career.covestro.com)

Covestro NV, Haven 507 / Scheldelaan 420, 2040 Antwerpen



# DOW



Can you  
see  
yourself on the  
team?

Apply today at  
[campusemeai.dow.com](https://campusemeai.dow.com)



## Shape your future with Dow

*Not sure where to start an internship?*

Our **internships** offer enthusiastic students the chance to get to know Dow for a longer period through innovative and sustainable projects in **R&D** and **Manufacturing & Engineering** at Dow in Terneuzen (NL).

### About Dow Terneuzen

With 16 factories, Dow Terneuzen is Dow's second largest manufacturing location in the world. A location with more than 3600 employees and over 50 nationalities.

### Where to start from?

- Visit [campusemeai.dow.com](https://campusemeai.dow.com)
- Apply for the internship that suits you best
- A recruiter will contact you if there is a match



Seek **Together**





Location: Antwerp, Zwijndrecht, Meerhout

## Internship Engineer - Belgium

We are more than just one of the largest energy companies in the world. ExxonMobil is a place where people think independently, take initiative, grow to their full potential and help shape the future of energy. We strongly believe that diversity drives innovation and our inclusive workplace helps everyone thrive, regardless of their background. The safety and wellbeing of our employees is at the heart of everything we do.

**ExxonMobil offers internship opportunities to Engineering students. You will be located in one of our manufacturing sites in the Antwerp Area.**

### What role will you play in our team

As an intern with ExxonMobil you get a well-defined task and will be coached by a dedicated ExxonMobil coordinator. The internship environment is young and dynamic and gives a clear image of a typical starting environment. Each internship subject contributes to our business and will give you a 'taste' of a typical starting position within ExxonMobil.

During your internship you will perform a project for one of our engineering departments and will learn to work independently in a professional work environment.

The various areas in which you may work cover virtually all aspects of the engineering work. Typical projects covered by interns are for example:

- Process simulation
- Safety studies
- Monitoring software
- Economic studies
- etc...

Length of program: 4 to 6 weeks

### Who are we looking for

- University students: Engineering Science (Chemical, Materials, Mechanical, Electrical, Energy, Applied Physics) and Bioscience Engineering (Chemistry & Bioprocess Technology, Catalytic Technology). Students who are in their 2nd year Bachelor or 1st year Master.
- You have a fluency in Dutch and English



**Curious about this opportunity?**  
Stay connected with us and apply

Hope to welcome you soon!

November 19, 2020



# Songs about science

- **Rocket Man—Elton John**

Written during the space race, this 1972 song is about an astronaut whose daily job is space travel. Space flight is his symbol for fame, and Elton John describes it as lonely and isolating:

And I think it's gonna be a long long time  
'Til touch down brings me round again to find  
I'm not the man they think I am at home  
Oh no, no, no, I'm a rocket man  
Rocket man burning out his fuse up here alone ... .



- **Electric Boogie—Marcia Griffiths**

Calling all electrical engineers and electricians. Here's your song! This 1982 hit is synonymous with the Electric Slide, a fun line dance for parties and proms. The song describes the social atmosphere as electric and irresistible.

- **The Scientist—Coldplay**

The guy in this 2002 hit wants a do-over after his romantic relationship has fallen apart because he wasn't emotionally warm and expressive enough. An apology, the song emphasizes a desire to go back to the start:

I was just guessing at numbers and figures  
Pulling your puzzles apart  
Questions of science; science and progress  
Do not speak as loud as my heart.



- **Video Killed the Radio Star—Buggles**

How appropriate that this was the first music video played on MTV in 1981. The 1979 song reflects the mixed emotions that many Americans had at the time regarding technological advances. As technology marched on, it changed the expression of creativity and mechanized the process:

Video killed the radio star  
Video killed the radio star  
In my mind and in my car  
We can't rewind we've gone to far  
Pictures came and broke your heart  
Put the blame on VCR.



- **Radioactive—Imagine Dragons**

Released in 2013, this is a post-apocalyptic song about waking up and doing something new. It contrasts danger and defeat with change of a new age. Radioactivity refers to the loss of energy from the nucleus of an unstable atom.



Improperly used, radioactive isotopes can be deadly. However, science has a variety of positive uses for it, too, including: establishing the ages of various objects, as tracers, killing harmful microorganisms in food, and diagnosis and treatment of various diseases.

Source: <https://spinditty.com/playlists/Ultimate-STEM-Playlist-Songs-About-Science-and-Engineering>

Answers for page 19: 1) a, 2) b, 3) c, 4) d, 5) e

# Which Trees Are These?

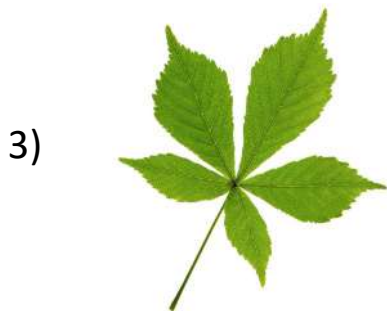
Whether you call it fall or autumn, you can't help but "fall" in love with the beautiful leaves! Before it gets too cold or too dark, maybe you "autumn" go to a park and walk amongst the trees. To prepare you for that, here's a small quiz: see if you can match the leaves of each common Belgian tree with its name!



a) European beech (beuk)



b) Common oak (zomereik)



c) Horse chestnut (paardenkastanje)



d) Sweet chestnut (tamme kastanje)



e) Field maple (veldesdoorn)



# Recipe: Pumpkin Soup

## Literature Study

An autumn classic <sup>[1]</sup>! Pumpkin soup (Figure 1). It's just €3 at Albert Heijn but why not spend a lot of time making it anyways.

## Materials

2 Tablespoons Butter  
2 Large Yellow Onions Sliced  
2 Cloves Garlic Minced  
1 Teaspoon Salt  
1 Teaspoon Cinnamon  
½ Teaspoon Nutmeg  
½ Teaspoon Ground Ginger  
2 15 Ounce Cans Pumpkin Puree  
2 Cups Chicken Stock  
2 Cups Water  
½ Cup Heavy Cream



**Figure 1:** Pumpkin soup.

## Experimental Method

1. Melt the butter in a large pot over medium heat.
2. Add the sliced onions to the pan and cook stirring occasionally until caramelized, about 15 minutes.
3. Add the garlic, salt, cinnamon, nutmeg, and ginger to the onions and stir constantly for one minute.
4. Add ¼ Cup of the chicken stock and use a wooden spoon to scrape any browned bits from the bottom of the pan.
5. Add the remaining chicken broth, water, and pumpkin puree and stir to combine.
6. Turn heat to low and simmer the soup for 20 minutes.
7. Turn the stove off and use a handheld immersion blender to puree the soup. Alternately, use a regular blender and puree the soup in 2-3 batches.
8. Stir the heavy cream into the soup, serve immediately with warm bread if desired.

## References

[1] Nichole, "Easy pumpkin soup," The Salty Marshmallow, 22-Aug-2019.

# Company of the month: Alvance



ALVANCE Aluminium Duffel is a European leader in the manufacture and sale of aluminium rolled products for diverse industries worldwide. It features state-of-the-art technology, including the widest Automotive cold rolling mill in Europe and a CALP-line (Continuous Annealing Line with Pre-Treatment). We offer aluminium solutions to a variety of end-use industries, including Architecture & Design, Automotive and Industrial applications. Almost everything we make is manufactured to specific customer requirements. Our state-of-the-art manufacturing facilities produce rolled aluminium for everything from highly designed cladding for building facades to automotive body sheet.

Visit our website for more info and our job opportunities, <https://alvancealuminiumduffel.be>



# Puzzle Alvance

			1	8				6
1				5				
	4				7			
7		6			8			1
		9		4			6	2
				3	6			
	9	7	4			8		
		1				9		7
		2	9					5

Fill in the number 1 to 9 so that each column, row and square of 3x3 contains nine different numbers.

**Tear or cut** this page out and deposit your submission in one of our boxes at 46, 70A or 125 before the **6th of December** for a chance to win the awesome prize offered by **Alvance!** Good luck!

Name: \_\_\_\_\_

Email: \_\_\_\_\_

# Sponsors

