

Year in review 2020-2021

Eindhoven

Young Academy of Engineering



Content

Preface..... 3

Members and board 4

Collaboration with other academies 5

Finance 5

Contributions to our aims..... 6

Appendix Summary ‘Maintaining Talent’ interviews by the EYAE9

Preface

Eindhoven, August 2021

The academic year 2020-2021 was a difficult year. The global pandemic Covid-19 made on-campus research and teaching difficult or impossible. Courses had to be fundamentally adjusted to be taught online. During certain periods of time parents had to keep their children at home which made working from home even more difficult. Internationals could not travel to friends and family and people were concerned about their own health and that of loved ones. All this contributed to a very high workload.

Naturally this also had implications for EYAE. EYAE came together online only during this academic year and our retreat had to be cancelled for a second time. Although we may have not been as productive as we would like to have been, we look back on a good year for EYAE. Our event on A.I. and creativity was hybrid and very successful. Our meetings were inspirational and new members quickly found their feet in the group. A large survey on the University Teaching Qualification took place which will lead to recommendations for improvement. We interviewed early career staff to investigate what makes a career at TU/e (un)attractive. The Centre for Unusual Collaborations with UU, UMCU and WUR was developed further. Our members actively contributed to the taskforce Recognition & Rewards and the committee Research Life Cycle. As a group we have had passionate and constructive discussions that are typical for the open atmosphere of EYAE. We look forward to continuing our activities and seeing each other on campus in 2021-2022.

Daniël Lakens, chair of EYAE 2020-2021
Yoeri van de Burgt, vice-chair of the board
Sandra Loerakker, member of the board
Oana Druta, member of the board
Rozemarijn Schalkx, secretary to EYAE

Members and board

a. New members 2020 and mutations

In May 2020 the application for new members opened. Deans and current EYAE members were specifically asked to ask suitable colleagues to apply. The call was also put on twitter and the website. After summer, Patricia Dankers, KNAW-member Jan van Hest and Daniël Lakens interviewed all candidates, supported by Rozemarijn Schalkx. 7 candidates were accepted as members. They are:

1. Matias Duran Matute (Applied Physics)
2. Federica Eduati (Biomedical Engineering)
3. Roy van der Meel (Biomedical Engineering)
4. Johanna Höffken (Industrial Engineering & Innovation Sciences)
5. Bob Walrave (Industrial Engineering & Innovation Sciences)
6. Antoni Forner Cuenca (Chemical Engineering and Chemistry)
7. Danqing Liu (Chemical Engineering & Chemistry)

They joined 2019 members:

8. Yoeri v.d. Burgt (Mechanical Engineering)
9. Tugce Martagan (Industrial Engineering & Innovation Sciences)
10. Yali Tang (Mechanical Engineering)
11. Sandra Loerakker (Biomedical Engineering)
12. Oana Druta (Built Environment)
13. Daniël Tetteroo (Industrial Design)
14. Sofie Haesaert (Electrical Engineering)

and 2018 members:

15. Mathias Funk (Industrial Design)
16. Maarten Hornikx (Built Environment)
17. Emanuela Bosco (Built Environment)
18. Jim Portegies (Mathematics & Computer Science)
19. Kevin Verbeek (Mathematics & Computer Science)
20. Patty Stabile (Electrical Engineering)
21. Alex Alvarado (Electrical Engineering)
22. Tom de Greef (Biomedical Engineering)
23. Sandra Hofmann (Biomedical Engineering)
24. Rong-Hao Liang (Industrial Design)
25. Job Beckers (Applied Physics)
26. Hanneke Gelderblom (Applied Physics)
27. Ilja Voets (Chemical Engineering & Chemistry)
28. Tom Oomen (Mechanical Engineering)
29. Daniël Lakens (Industrial Engineering & Innovation Sciences)
30. Krist Vaesen (Industrial Engineering & Innovation Sciences)
31. Patricia Dankers (Biomedical Engineering)

Krist Vaesen and Maarten Hornikx both left EYAE because of personal reasons during the academic year. Liesbeth Janssen became member of De Jonge Akademie and thus qualified to become member of EYAE. She joined EYAE from July 2021.

b. Board

Yoeri van de Burgt has been member of the board from 01-04-2020. He was joined by chair Daniël Lakens and board members Oana Druta and Sandra Loerakker in September 2020. Yoeri van de Burgt will become chair of EYAE as of September 2021. Sandra Loerakker will be vice-chair. There will be a vacancy for a board member from September 2021.

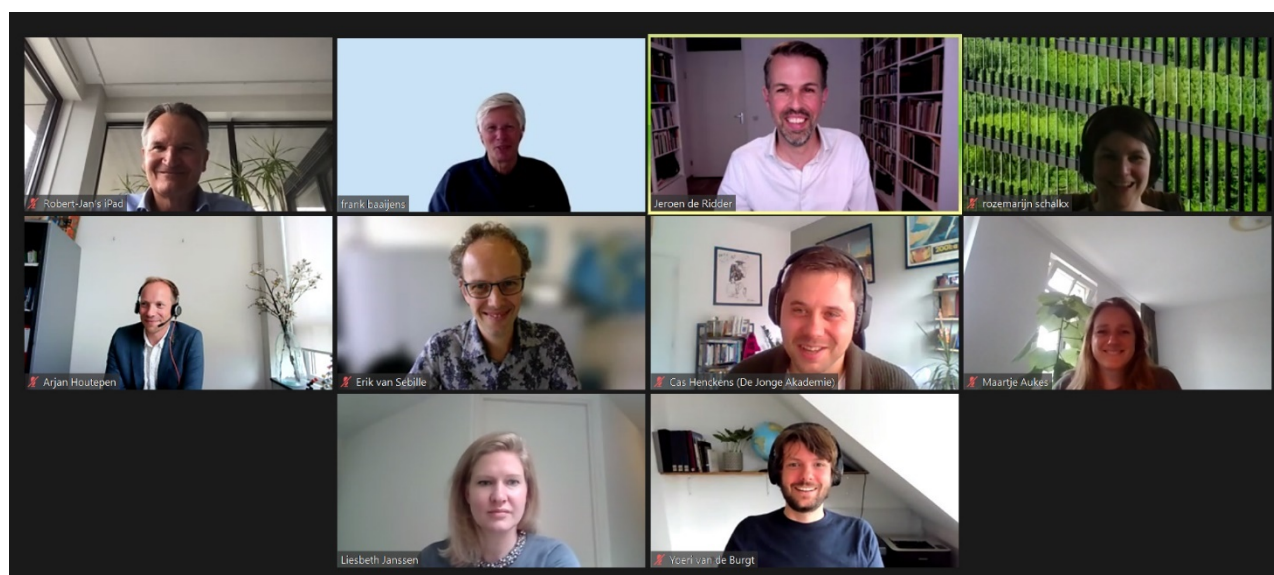
Collaboration with other academies

Almost all Dutch universities now have young academies. Because of Covid no live central national meeting took place, but Daniël Lakens and Oana Druta attended Local Young Academies meetings. These were regular meetings with representatives of all the young academies around the Netherlands. Some of the topics that were discussed throughout the year included effects of Covid-19, diversity, and sustainability.

The board of De Jonge Akademie paid a digital visit to the executive board of TU/e in June of 2021. Vice-chair Yoeri van de Burgt and secretary Rozemarijn Schalkx joined them. DJA-member Liesbeth Janssen was also present. Topics discussed were among others social safety, Recognition & Rewards and diversity.

Tom de Greef is a member of DJA and has served as a liaison between DJA and EYAE. DJA asked the opinion of the local young academies regarding the proposal to shorten the academic year to curb work load. This was discussed, but members of EYAE could not support the proposal.

EYAE was contacted by Utrecht Young Academy who started Scientist 4 Future to support a letter to the ABP and executive boards of Dutch Universities to divest in fossil fuel. This topic was discussed extensively. In the end a majority voted to support it.



Finally, EYAE is a partner within the Alliance between TU/e, Utrecht University (UU), University Medical Center Utrecht (UMCU) and Wageningen University & Research (WUR): 'Challenging future generations' (<https://ewuu.nl/nl/>). The Young Academies of the four institutions have been tasked to find ways to address pressing societal challenges. This has resulted in the foundation of the Centre for Unusual Collaborations (CUCo, www.unusualcollaborations.com).

Finance

EYAE is supported by the executive board who provides a secretary (in-kind) and funds for organizing events and meetings. Total expenses for the period July 2020-July 2021 were only 764 euro. This low number can be explained by the Covid-19 epidemic which made meeting in person impossible.

Contributions to our aims

The aims of the EYAE are:

1. *Being a platform for young academics for open discussion*
2. *Providing support for early career researchers at TU/e*
3. *Fostering interdisciplinary cooperation and research*
4. *Fostering excellence in education*
5. *Contributing to valorization (knowledge transfer) and outreach*
6. *Advising on policies regarding scientific research, education, valorization, outreach and impact both inside and outside TU/e*

Each year we report on the contributions we have made with regard to these aims.

1. *Being a platform for young academics for open discussion*

In 2020/2021 we had 10 meetings. Because of Covid-19, our weekend away unfortunately fell through. Meetings were usually 1-2 hours. All meetings were held via Teams. We discussed a variety of topics, sometimes with guests. Examples are:

- Dealing with the implications of Covid-19, ranging from best technical tools for online meeting to dealing with online examination, supporting well-being, keeping in contact and helping PhD candidates
- The use of sabbaticals to have time to think
- Recognition and Rewards
- The Irene Curie Fellowship program (with Julma Braat and Corlien van Dam)
- The strong focus on applied research in funding
- How TU/e may change its culture regarding prizes and awards
- The national survey on research integrity

2. *Providing support for early career researchers at TU/e*

EYAE interviewed 22 early career researchers about the motivation to stay or leave academia. The results (see appendix) were shared with rector Frank Baaijens and HR and can be used to make TU/e a more attractive university.

3. *Fostering interdisciplinary cooperation and research*

The executive boards of TU/e, UU, UMCU and WUR have invited their respective young academies to work together to address societal challenges as a working group within the Strategic Alliance between the four partner institutions. Sandra Hofmann, Daniël Lakens and Daniël Tetteroo have been involved as representatives from the EYAE in the foundation and development of the Centre for Unusual Collaborations that facilitates and fosters Unusual Collaborations to address societal challenges with a physical centre and supporting grant money for SPARKs (building of teams) and projects (unusual collaborations, UCo, including CUCo fellowships). The first call for UCo proposals opened in September 2020 and four Unusual Collaborations were funded. [Cursor](#) wrote about the initiative in November 2020. The physical location of CUCo will officially open on September 16 2021 at the Vening Meineszgebouw in Utrecht. More details can be found on: www.unusualcollaborations.com

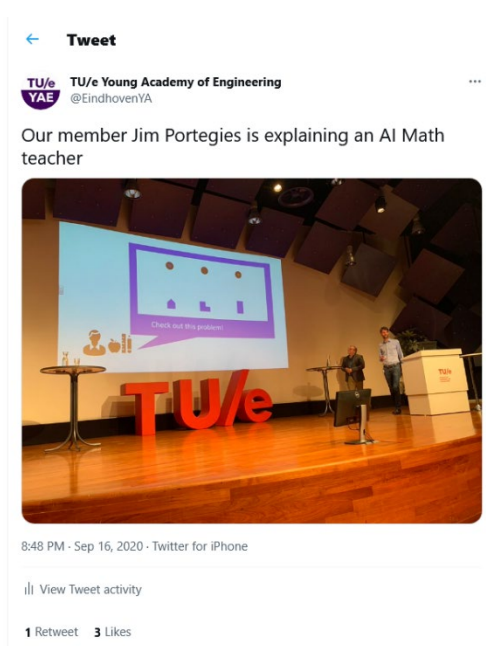
4. *Fostering excellence in education*

Jim Portegies, Alex Alvarado and Job Beckers organized a survey on the University Teaching Qualification. Over one hundred faculty who had taken the course in the last ten years took part in the survey. A draft analysis of the findings was discussed in June of 2021. A document with results and recommendations will be shared with HR later this year.

5. *Contributing to valorization (knowledge transfer) and outreach*

Together with the TU/e Center for Humans & Technology, EAISI and Studium Generale, EYAE members Jim Portegies and Sofie Haesaert organized an interdisciplinary event on creativity and AI in September

16, 2020. Jim Portegies was one of the speakers at this very [successful evening](#). The event is available on [Youtube](#) and has been streamed 1675 times as of July 2021.



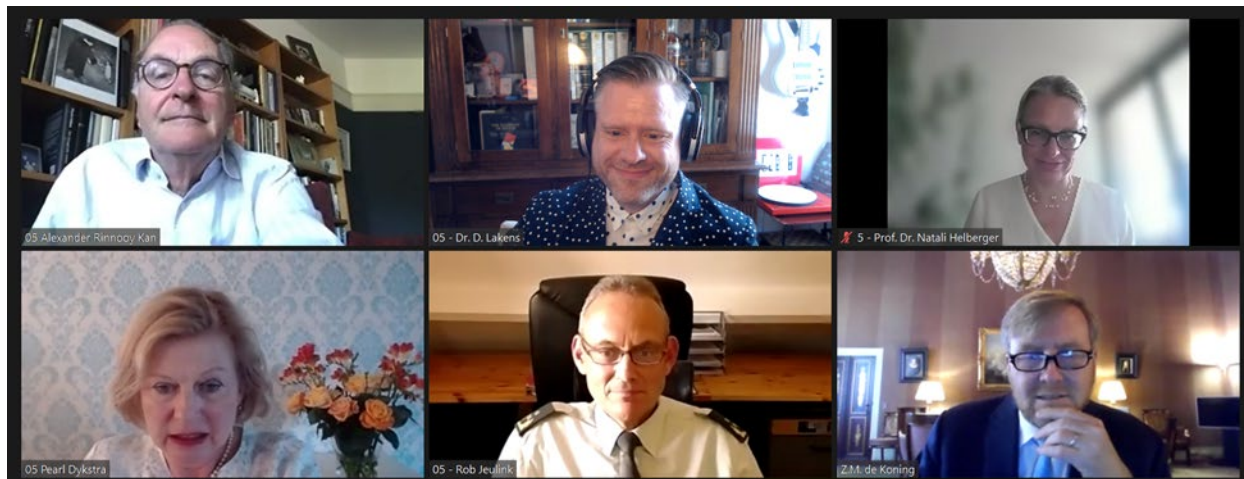
EYAE has its own website and twitter account, accessible for all members. The account has 339 (was 188 in July 2020) followers and is mostly used by the EYAE secretary to communicate about events and news about our members and to keep in contact with other young academies.

6. Advising on policies regarding scientific research, education, valorization, outreach and impact both inside and outside TU/e

Following the ‘EYAE Advice on attracting and retaining female scientific staff’ which was presented last academic year, rector Frank Baaijens asked to set up interviews with young staff on their motivations to stay in or leave academia. Members of EYAE interviewed 22 early career researchers. A summary of the interviews can be found in the appendix. The results were shared with rector Frank Baaijens and HR.

EYAE is seen as an important representation of young researchers. Members are often asked to join committees to improve policies.

- Yali Tang, Emanuela Bosco and Yoeri van de Burgt joined the advisory committee for the Research Life Cycle evaluation. 5 members joined a one time discussion on the organization of research support.
- Patricia Dankers (until March 2021), Sandra Hofmann (from April 2021), Maarten Hornikx and Mathias Funk were part of the taskforce Recognition and Rewards which ran from March 2020 until August 2021. Patricia Dankers, Daniël Lakens, Roy van der Meel and Johanna Höffken contributed by making a concept education CV which was submitted to the taskforce.
- Daniël Lakens was part of a committee chaired by Bert Meijer which advised how TU/e could improve the culture and the nominations for prizes and awards. Sofie Haesaert will join a new Prizes and Awards committee from September 2021.



On June 2nd 2021 board members Oana Druta, Daniël Lakens and Yoeri van de Burgt were among the 120 scientists, policy makers, journalists and politicians who were invited by his Majesty the King Willem-Alexander and her Majesty the Queen M^axima to the '[Paleissymposium](#) COVID-19 vanuit verschillende perspectieven'. This [symposium](#) was held mostly online because of Covid-19.



Appendix Summary 'Maintaining Talent' interviews by the EYAE¹

We interviewed 22 young individuals (approximately 2/3 women, 1/3 men), most of whom were working as a PhD student, or completing a masters, at the TU/e. All were considered talented enough to have a successful career in academia. The goal of the interview was to learn about their views on pursuing a career in academia, and at the TU/e specifically, compared to careers outside of academia. We asked which aspects of a career in academia they find attractive, and which they find less attractive – in general, and at the TU/e specifically. Answers reflect their perceptions, which do not need to reflect reality, but are important for their decision for a future career. Here, we provide a summary of the main themes that emerged from these 22 interviews.

Positive aspects

Most interviewees (17) mentioned the freedom of a research topic as attractive, as well as a general flexibility in academic work. The fact that it is a job where you continue to be challenged and develop new skills was mentioned by 10 people. Additional themes that emerged were the possibility to do work that benefits society (6), a nice working environment (6), being appreciated by your employer (4), and gaining status as you become better known as a scientist (3).

Concerning the TU/e specifically, the university was seen as a nice working environment (6), which many people found very important in a future job. Most considered their current working environment quite collaborative, where some were worried about academia in general being quite competitive. One positive aspect was the ability to work closely together with companies, although three individuals mentioned they would prefer more collaboration within the TU/e across groups and departments. One interviewee mentioned the strong reputation of the TU/e, but two mentioned the TU/e is not as well known as many US universities or the TU Delft, and that more could be done on public relations.

Neutral aspects

Several (5) interviewees mentioned the salary was important, but high enough, and were relatively neutral about this aspect of the job, but three mentioned that one thing that could be improved was a salary more in line with industry. Three individuals noted working and travelling abroad as a positive aspect of an academic job, but two mentioned it as a negative aspect when it was expected, especially with a young family. A nice living environment (or a short commute) are seen as desirable, but not problematic for the TU/e. Companies were seen as investing more in social activities for employees, and one recommendation for improvement mentioned by three individuals was to invest more in promoting social interaction.

Negative aspects

By far the most negatively perceived aspect of working in academia (mentioned by 15 interviewees) is the expectation of not being able to have a good work-life balance. Five

¹ Interviews took place in summer and fall of 2020.

interviewees mentioned this specifically in the context of being a parent. Three individuals raised the perceived impossibility of working part time to have a successful career. These perceptions came from seeing the lives of role-models (e.g., supervisors, professors from the department), but also from reading complaints from academics on social media. Possible improvements raised were that the TU/e could more actively promote a better work-life balance, better (or even free) childcare, and career options for people working part time.

A second main theme was perceived stress and pressure, both of having to write and secure research grants (mentioned by 9 individuals), but also the constant pressure of having to prove you are better than others, and feeling inadequate even when working a lot (mentioned 7 times). A possible improvement raised by several people was not being required to secure grant money, and instead having internal funds to perform research.

Low job security was mentioned by 7 people, especially in a time when starting a family. Possible improvements that were mentioned were a clearer outlook on tenure, for example after one trial year, always providing a letter of intent when employees want to get a mortgage, and if you have to work abroad, some guarantee of a job in your home country (either at the university, or getting help with a job at a company).

Conclusion

Some of the structural factors that make academia an attractive career path for young talented scientists is the freedom in choosing a topic of research, and the ability to continuously challenge yourself and learn new skills. Academia, and the TU/e specifically, is seen as a nice working environment. However, the perceived lack of a good work-life balance, especially in a time many young people start a family, together with stress and pressure to secure grants and constant need to prove you are a good researcher, together with the relatively long job insecurity, are structural factors that make a career in academia less attractive. As EYAE, we recommend the board to seriously consider the points that were consistently raised as negative aspects of a career in academia by these talented young individuals. Changing these perceptions, and their underlying causes, is important to achieve the goal of attracting and maintaining scientific talent.