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Our reference
Position Executive Board

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Position of the Executive Board of Eindhoven University of Technology regarding the assessment of Mathematics

In March 2022 an international review committee assessed the research of Mathematics conducted by eight Dutch universities in the reference period 2015-2020.

The Dutch universities are:

- University of Twente (UT);
- Utrecht University (UU);
- University of Amsterdam (UvA);
- Eindhoven University of Technology (TU/e);
- Vrije Universiteit Amsterdam (VU);
- Wageningen University & Research (WUR);
- Leiden University (UL);
- Radboud University (RU);

The assessment was carried out using the Strategy Evaluation Protocol 2021-2027 for the research assessment of public organizations in the Netherlands.

The committee assessed three main criteria: research quality, relevance to society, and viability. Furthermore, the following four specific aspects were incorporated: Open science, PhD policy and training, academic culture, and human resources policy.

The committee also assessed:

- the Dutch landscape in Mathematics in relation to its international position;
- the extent to which the implementation of the sectorplan invigorates Mathematics in the Netherlands and how it prepares Dutch Mathematics for the future.

The assessment committee consisted of:

- Prof. dr. Michiel Bertsch (chair), University of Rome Tor Vergata, Italy;
- Prof. dr. Irene Bouw, University Ulm, Germany;
- Prof. dr. Claudia Klüppelberg, Technical University of Munich, Germany;
- Dr. Yukihiro Murakami, TU Delft, the Netherlands;
- Prof. dr. Britta Peis, RWTH Aachen, Germany;
- Dr. Mark Roest, VORtech, the Netherlands;

- Prof. dr. Henrik Schlichtkrull, University of Copenhagen, Denmark;
- Prof. dr. Stefan Vandewalle, KU Leuven, Belgium.

The committee made the following assessment for TU/e:

Academic culture and Human resources policy

- ‘In all interviews with TU/e delegations it was mentioned that academic culture and openness has changed for the better over the past years. ... Still, not yet do researchers at all levels consider that the system is sufficiently transparent. Thus, further increasing transparency remains an important goal for the upcoming years.’
- ‘The committee appreciates the active mentoring of young talent, and young women in particular, towards leadership positions. ... The committee is positive that in recent appointments, clear and individual goals are discussed between candidates and supervisor, including how to reach them.’
- ‘Despite clear and transparent criteria on paper, in practice tenure and promotion decisions seem to still strongly depend on the supervisor.’
- ‘The department is looking into a period in which several full professors will retire. There is a clear strategy in place, ... The committee emphasizes the importance of including diversity (in particular gender diversity) in the replacement of these retiring professors.’
- ‘It is clear to the committee that the gender issue is taken seriously and is actively being dealt with.’

PhD policy and training

- ‘Most PhD candidates manage to finish within time. ... From the interview, the committee learned that there is emphasis from supervisors to finish the PhD within the agreed upon contract period.’
- ‘... Apart from the mandatory Scientific Integrity course, the PhD’s take courses from the PROOF programme (graduate school) tailored to their needs. ... The fact that only one course is mandatory means, according to the committee, that the role and input by the supervisor is pivotal, since he/she has an important role in recommending on what courses should be followed. ...’
- The ‘structured way of providing career advise is appreciated by the committee.’

Research Quality

- ‘According to the committee, the quality of the research and output of the department is excellent. ... The reputation of mathematics at TU/e is very high and deservedly so. The members demonstrate scientific leadership in many ways: ... Furthermore, the department manages to attract excellent researchers from all over the world. Unfortunately, retaining these talents is a challenge. ...’
- ‘From the paragraphs under Relevance to Society the impressive connection with industry, it becomes clear that impact and valorisation are particular strengths of TU/e. Nevertheless, the department emphasizes the combination of applied research with actively supporting fundamental mathematics that is curiosity driven on in situ practical issues. The committee thinks that this approach is exemplary.’
- ‘The amount of funding acquired is impressive. The financial situations seems very healthy with a stable mix of various incomes. ... From the interviews it was clear that grant acquisition is stimulated and supported by an excellent support office, leading to success in for example the NWO gravitation programme.’
- ‘Compared to other mathematics departments in the Netherlands, TU/e relatively has a large number of PhD candidates per faculty member. ...’

Open science

- ‘In the period of evaluation, the department worked on open access publications, data and software. Both by way of agreements with major publishers (Gold) and by making use of the TU/e repository, an increase in open access is achieved. ...’

- ‘Standardizing and embedding the open data and open-source software procedures in the daily work seems to be a work in progress.’
- ‘Collaboration with industrial partners might put a strain on open source (e.g., software). The committee recommends to carefully guard the trade-off between open science on the one hand and keeping things confidential because of the collaboration with industry on the other hand.’

Relevance to society

- ‘... the research seems well embedded in industry and collaboration is used in a strategic manner. ... At the same time, there is attention for keeping the balance with fundamental mathematics research.’
- ‘According to the committee, collaboration with industry is excellent and organized professionally. ... The committee strongly appreciates that collaboration with industry is explicitly rewarded in the tenure and promotion contracts with an eye for the various forms (actual collaboration or contribution to standardization organisation) and that industry is involved in the training of master students. Efforts related to societal relevance are rewarded. ...’

Viability

- ‘According to the committee, the future plans are convincing and reflect the experience and success (in terms of scientific output, prestigious research grants, collaboration with industry, diversity of research themes, etc.) of a relatively large and well-organized department. Viability is excellent although the department should not underestimate possible weaknesses in the organisational structure, internal communication, and transparency.’

The committee made the following conclusion:

- ‘The combination of doing applied research (as a technical university) with fundamental, curiosity driven research has led to impressive, high quality research output and impact and valorisation. The department has a clear view on its strengths, which is visible in its strategy and viability. In the organisation and governance, the development towards a less hierarchical structure was started. The committee agrees with the research staff it talked to during the site visit that this is a positive development and should be continued.’

The committee also made concrete recommendations for further improvements in the future:

- ‘The shift towards a situation in which PI’s are increasingly involved in the decision-making process is positive, but it requires attention to make sure that all (junior) PI’s are involved. Currently, their involvement depends too much on group leaders and not all PI’s feel involved at the level they are supposed to. Attention is required to further enhance transparency of the development, procedures, and decision-making process, with specific attention to vertical communication.’
- ‘The lack of a good gender balance is taken seriously and actively being dealt with. The committee encourages the department to continue with its proactive approach.’
- ‘Important steps have been taken to improve the transparency, definition of criteria and decision making on tenure and promotion. This is already visible in the most recent hirings. The committee points out that the group of mid-career researchers that was hired prior to the implementation of these improvements, does not seem to profit. It urges the department to make sure to include all research staff in the ongoing increase of transparency.’
- ‘Policy on open science aspects is in place. The committee recommends working on implementation and awareness of these policies, including the availability of a data steward. Furthermore, the department should continuously guard the boundary between open science and confidentiality as the result of collaboration with industry.’

The Executive Board highly appreciates the work of the committee and the recognition of the excellent quality of the research of Computer Science at TU/e. It is equally appreciative of the concrete recommendations of the committee. The Executive Board will discuss the recommendations with the management of the research unit.

The Executive Board of TU/e has accepted the report and its recommendations and wishes to thank the assessment committee for the considerable time and effort it has spent on this assessment.

On behalf of the Executive Board,

A handwritten signature in blue ink, consisting of a stylized 'F' and 'B' followed by a long horizontal line that ends in a small upward curve.

Prof.dr.ir F.P.T. Baaijens
Rector Magnificus Eindhoven University of Technology