

UNIVERSITY OF TWENTE.

To
Executive Board

FACULTY OF ELECTRICAL ENGINEERING, MATHEMATICS AND COMPUTER SCIENCE

FROM
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DEPARTMENT
EEMCS-FO

Subject: Assent AM midterm research evaluation 2024

Dear members of the Executive Board,

Throughout 2024, a midterm research evaluation was performed by the discipline of Applied Mathematics (AM). A concise self-evaluation has been written (attached), and the Faculty Board provided a written reaction to the self-evaluation with a summary of resulting concrete actions (attached). The Faculty Board has discussed its reaction with Prof. Johann Hurink, chairman of the discipline.

In 2022, a very positive full research assessment was performed with only a few recommendations. Therefore, the discipline decided to focus their midterm self-evaluation on three specific topics, clustering of groups, personal development, recognition and reward, and financial perspective.

Concerning financial resources, we request the Executive Board to soon provide clarity concerning the phased implementation of the new Research Allocation Model, which we expect will have an important impact on the Applied Mathematics department.

It is important to note that the midterm self-evaluation report addresses the full tasks and performance of the Applied Mathematics Department, including education since this also impacts the research task. Although we acknowledge this view, we do not include our reaction to educational aspects of the self-evaluation report but separately informed the discipline chair about this. Furthermore note that a review of Applied Mathematics education will be held in 2025.

With regards,
On behalf of the Faculty Board EEMCS



Boudewijn Haverkort
Dean

Reaction of the Faculty Board EEMCS to the midterm self-evaluation of Applied Mathematics, including summary of concrete actions

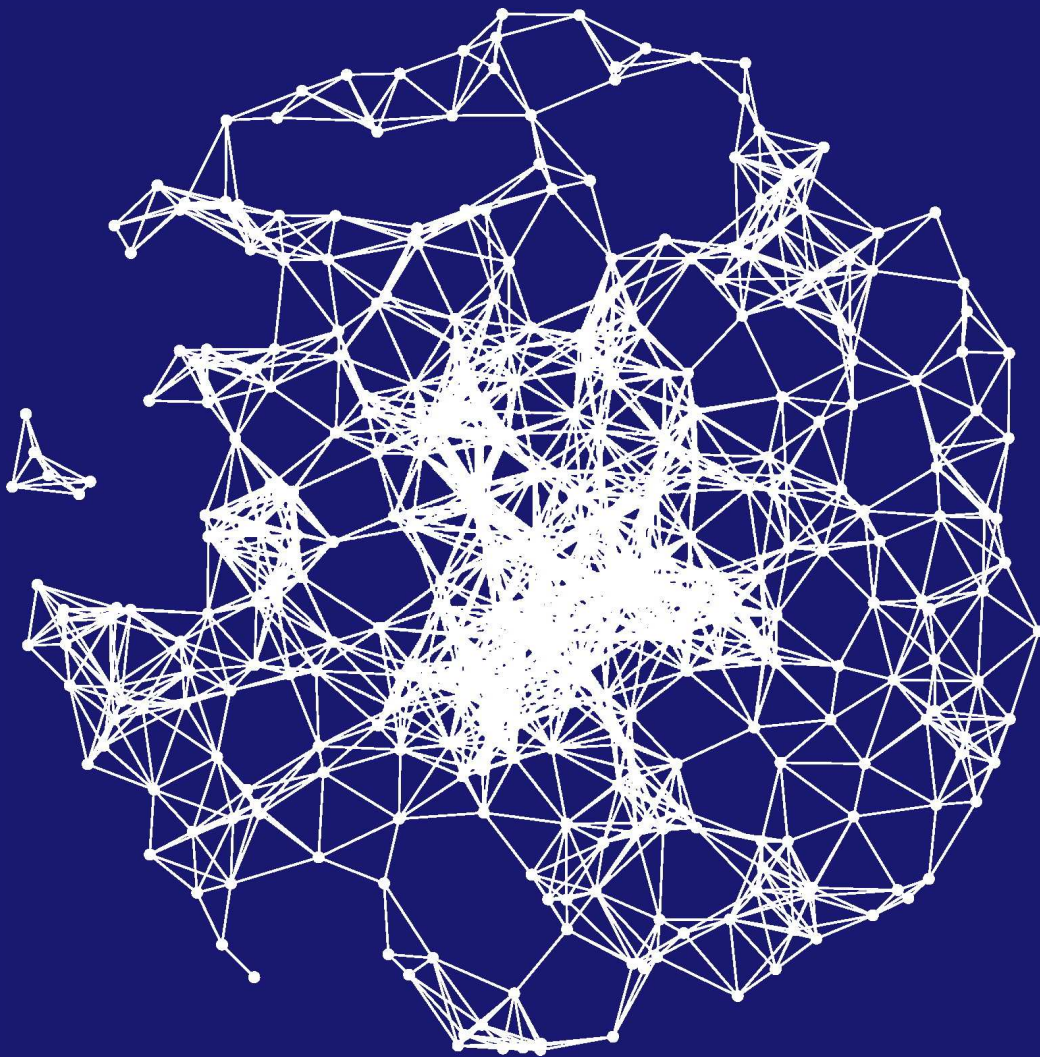
The faculty board thanks the discipline Applied Mathematics for submitting their midterm research evaluation 2024 report to us. Our first reaction to the main recommendations in this report, with a summary of concrete actions, is provided below:

1. Clusters or Research Areas : The FB supports the evolution of the 3 AM clusters into full organisational units. This change aligns with the wish of the FB to have larger and, therefore, more resilient organisational units.
Action: FB will discuss this process with the discipline chair and group chairs and will formulate a plan to optimize the organization of the Applied Mathematics department.
2. Personal development, Recognition and Reward: The FB supports supervisors to advise their staff in planning their career development and acknowledges that the recognition and reward framework needs to be further refined for a more practical use.
Action: HR of EEMCS will continue to develop and implement an improved recognition and reward framework in collaboration with central HR and HR of other faculties
3. Finances:
Action: The FB will discuss financial challenges of the AM department throughout 2025 with the new discipline chair with the intention to jointly develop a multiannual plan to address these challenges, thereby also taking account of developments at UT level.

FB has discussed the above reaction with Prof. Johann Hurink, discipline chair of Applied Mathematics. The FB will forward the midterm report and the above reaction of FB with summarized actions to the Executive Board.

Midterm Research Evaluation

2024



Department of Applied Mathematics

University of Twente

1 Introduction

The last research assessment of the department covered the period 2015-2020. At the request of the university board, we organized a midterm assessment in 2024.

As there were hardly any recommendations in the previous research assessment, we have chosen three subjects that we found most important to reflect on, i.e. the division into research areas (clustering), the transparency of our HR system, and the available resources for the department. For each of the three themes, one colleague was asked to prepare a text which contains a reflection on this topic, followed by an analysis and an evaluation, and ended with some outcomes and recommendations. The three colleagues are:

- Maria Vlasίου (clustering),
- Silke Glas (HR),
- Jelmer Wolterink (resources).

During a strategy day we organized in June, the department was involved in this process.

The following three sections are dedicated to these three themes, followed by a section on the sector plan and a section on the expected financial problems in the coming period.

2 The division into three research areas

Since 2019, the Applied Mathematics Discipline at EEMCS (DAMUT) has been organised in three methodologically oriented clusters. These are: *Mathematics of Operations Research* (MOR), *Mathematics of Data Science* (MDS), and *Mathematics of Computational Science* (MCS).

The step from the previous two clusters to now three clusters was motivated by the growing importance of Data Science. The clusters are primarily meant to help organise activities (such as seminars, proposal writing, and master courses). They also help to communicate the research portfolio of DAMUT to current and prospective students and the outside world. Staff and groups can choose to be affiliated with any cluster or multiple ones.

Reflection

Being a new structure, the department reflected twice since their foundation on whether the clusters fulfilled their purpose, whether they functioned well, and whether adjustments were needed. During the 2023 DAMUT Strategy Day, we performed a SWOT analysis of the clusters, and in the 2024 DAMUT Strategy Day, we reflected on their evaluation, function, and outlook.

SWOT analysis, 2023

The department made a SWOT analysis per cluster during their strategy day in May 2023. The achieved output is summarized in the following table.

Strengths	Weaknesses
<ul style="list-style-type: none"> • The ability to connect mathematical research topics to societally relevant themes, including proper funding • Internationally visible researchers on board 	<ul style="list-style-type: none"> • Not enough mathematics students • Not sufficiently leading in national initiatives • Relation between bachelor program and cluster division not optimal • Quite some PhDs take > 4 years
Opportunities	Threats
<ul style="list-style-type: none"> • AI is a hot topic, and involvement in large grant applications is possible • International cooperation in Erasmus Mundus • Local companies and connections across departments • Inject hot topics into teaching 	<ul style="list-style-type: none"> • Low number of math students • Not always informed/involved in large national activities • The teaching load is too high, and time is too scattered • Top talents get offers from other places • Clusters lack developing a clear identity, too much fragmentation and not enough focus

Table 2.1: SWOT Analysis.

Evaluation, function, outlook

During the 2024 DAMUT Strategy Day, the department reflected again on this topic based on the following questions:

1. Did the clusters fulfil their purpose?
 - As defined when founded, namely coordination of activities, courses, funds acquisition, and communication to students and society.
2. What do you view as clusters' main function or benefit?
 - Focus on visibility, clarity of the DAMUT educational portfolio, and finding expertise within the department.
3. How important is the cluster structure to you? And to the department?
 - Reflection on whether the clusters are a burdensome administrative layer or a useful structure.

Outcome

There were apparent differences between clusters that have been long-established in some form (before the re-organisation) and newly established clusters.

The MCS and MOR clusters were generally positive about the structure, finding it helpful, clear, and fitting the purpose. They found that the clusters provided an additional layer of communication between groups that was experienced as welcome.

The MDS cluster had mixed feelings. The forming of the clusters led to joint activities, such as the MDS seminar. They are viewed as a communication platform that provides an opportunity for a joint message. On the other hand, the cluster feels they are mainly viewed as individuals externally rather than belonging to a well-established or recognised group at UT. This is also reflected in the educational portfolio, where a link to the cluster structure is missing.

Meanwhile, the MDS cluster has found some common ground. Members agree that they are connected through teaching, wish for more interaction between the groups, need a common strategy for student information sessions, and should develop a standard message for academia and society.

In summary, two clusters view the function of a cluster with a positive outlook. In contrast, the newest cluster finds some value, but the constituting chairs do not have a shared vision.

Recommendation

As a recommendation, we suggest that clusters are not linked at this stage with any explicit administrative structure (such as cluster representation to the faculty board) beyond the existing links on an administrative level, which aggregate finances at a cluster level with the particularities left to be arranged internally. As seen from the older clusters, forming larger groupings is experienced as a positive step with added value to each group. As seen from the younger cluster, this process takes time. Therefore, the discipline and department should give this time so that **the clusters can further develop closer ties organically.**

3 Resources

Excellent teaching and research require resources. On the strategy day in June 2024, we reflected on the resources available and required to achieve this by discussing the question, 'Which resources do you need to bring your research & teaching to a higher level?'. We considered that resources are not just material but also include services offered by the faculty or university. Five different types of resources were identified:

1. Compute infrastructure
2. Project preparation
3. Project execution
4. Communication and outreach
5. Education (e.g. digitalisation).

The discussion was organized according to these topics on five tables. Participants could choose a table and were asked three questions:

- What do you need in terms of resources?
- Are you aware of existing resources?
- What do you miss in resources?

Outcomes

Compute infrastructure The discussion focused on the recently acquired HPC nodes for DAMUT in the EEMCS cluster and the university-wide Jupyter servers for teaching. Both are in popular demand, and there is a need to maintain and possibly extend both. Potential new users in the department should be properly informed about computing options. An important question is how supply and demand can best be regulated fairly and at which level budgets for computing infrastructure should be acquired and spent. This requires communication with LISA and within the department, e.g., by integrating resources for computing when preparing grant applications. A joint investment in department-wide infrastructure, as was now done, has been an important step.

Project preparation Department members are aware of SBD, but there appears to be limited awareness among new staff about the support offered in grant writing and project preparation. It would be good to provide new staff with short guidelines for planning the time to prepare specific grants.

Project execution There is a need to have more control over the financial status of ongoing projects, e.g., via regular reports, so that budgets can be used properly and timely. There was a shared feeling of dissatisfaction with the bureaucratic nature of the current TGS system. There should be more trust in supervisors instead of additional administrative hurdles, for example, by allowing courses on mathematical skills (e.g. writing) instead of the general skills courses in TGS. There is a practical need for support and templates for data management plans, which are more and more commonly required in projects.

Communication and outreach The UT communication department appears reactive instead of proactive and could - for example - offer more support in grant preparations and preparations for interviews. Despite the excellent individual initiatives, a clear outward-focused communication strategy within DAMUT is generally lacking. Such a strategy could help inform the general audience and attract new students. One challenge is that employees only have limited time to develop communication strategies. An option here is to connect to existing national initiatives such as VHTO.

Education There is a need for more consistency in the availability of digital devices and increased availability of whiteboards and blackboards. Regarding the information infrastructure in teaching, different systems could be better integrated,

e.g., (Remindo and Osiris), and new systems do not always appear to bring improvements (e.g., TimeEdit). In terms of content, there is a need for centralized content creation and support in the production of teaching materials in Dutch.

Recommendation

The main recommendations are as follows:

Computing infrastructure

- When preparing grant proposals, we should consider budgets for computing and how those can be spent efficiently.
- New members should be informed about the computing options.

Project preparation

- Short guidelines for new employees could be prepared regarding grant preparation and available support.

Project execution

- The department should advocate for more reliable and frequent project overviews for ongoing projects.
- The department should advocate for a more mathematics-oriented TGS trajectory for PhD students.
- The department should develop a clear communication strategy
- Efforts should be aligned with existing national initiatives.

Education

- Dutch content creation for teaching could be centralized at the department level.

4 Personal Development, Recognition & Rewards

There are possibilities for personal development/promotion at the Department of Applied Mathematics, which can be found under the webpage [EEMCS career development](#). Most of the promotion rules are defined for the faculty EEMCS, with some adapted rules for mathematics. For promotion to the next level, aspects in three categories need to be satisfied:

1. Research
2. Education
3. Organisation tasks

The UFO profiles give a general overview of what is expected at each level, whereas the self-assessment forms list specific criteria needed for promotion. Furthermore, for all teaching staff, completing the Basic Teaching Qualification (BKO) is a requirement for any promotion.

The Recognition & Rewards (R&R) framework was developed to allow for more flexibility in weighting the three categories, and HR presented a preliminary form at the DAMUT Strategy Day 2024. The goal was to display the new promotion framework early to encourage transparency and allow for reflections/comments on the present state of the R&R framework.

Reflection

On the DAMUT Strategy Day 2024, we split the scientific staff present into groups according to their UFO profile, i.e., UD, UHD, full professor, and lecturer, as we expected that different career stages would have assorted opinions on this.

We reflected on the following questions for the levels UD, UHD and lecturer:

1. Do you know what you have to do to be promoted?
2. How do you think the R&R framework contributes to better recognition of your specific talents compared to the current situation? How could it positively influence your well-being (UD, UHD)? How do you think the R&R framework would be helpful for your career development, and do you have suggestions (lecturer)?
3. How do the leaders in the department guide you to stimulate you in your career and give you room to develop yourself?

Furthermore, we reflected on the following questions for full professors:

1. Do you know what the assistant/associate professors/lecturers need to do to be promoted?
2. How do you think the R&R framework contributes to better recognition of the talents of the group members?
3. How do you stimulate the group members in their career development?

Outcome

We summarised each outcome separately since they differed regarding the different UFO profiles. In general, every group was positive towards the new R&R framework, but as it is in its developing phase, the impact it could have was not as tangible.

Most assistant professors were unclear about how the promotion procedure works and where to find the corresponding documents. Moreover, how the UFO profiles align with the self-assessment forms was questioned. Concerning the R&R framework, a common strategy within the department was desired to ensure that people with different focuses could complement each other.

For associate professors, the knowledge of how to achieve promotion was available. However, it was unclear what specific criteria apply to obtain *ius promovendi*.

As the R&R framework presented was for UD, UHD and full professors, the lecturers wondered which options would be available. Concerning the current promotion system, it was mentioned that the BKO is required for every promotion; however, the courses needed to finish the BKO are limited. Furthermore, there was confusion about how to be promoted from lecturer 3 to 2 without a PhD.

Full professors noticed that the current systems work pretty well to recognise different career paths and hoped that the new R&R framework would offer the same flexibility. It was noticed that offering too much flexibility in the new framework could make the promotion criteria/process less transparent.

Recommendation

Based on the different outcomes of the UFO levels, we provide the following ideas for recommendations:

- Include the topic of promotion in the annual interview form with a link to the respective documents. In that way, the communication problem present at the UD level could be improved.
- Include the UFO profile of lecturers in the R&R framework.
- Although every group was positive towards the R&R framework, it would be recommended that during the process of evolving it, more specific explanations of what is possible/not possible are given, e.g., what is meant by "impact-driven".

5 The sectorplan

With the start of the sector plan in 2019, the department's research capacity has increased considerably. In response to the sector plan, we, as a department, have considered our research position. It was decided to prioritise setting up a chair in modern statistics. This chair and the redesigned chair in Mathematical Imaging & AI form the data science cluster. Furthermore, the other clusters have been strengthened in uncertainty quantification, network theory and optimization.

The sector plan has resulted in five new positions with five-year funding. In addition, the sector plan employees have received a starter package with which they have financed a PhD position. By obtaining two VENI grants, additional research capacity has been generated.

As a bonus, the university has financed two additional positions, also for five years, and also with a starter package. This has further strengthened the statistics chair, and it was decided that the subject of model order reduction should get more attention. These positions have also generated additional funding through VENI and NWO-M grants.

6 The department is in financial danger

After 2024, the funding of the sector plan will expire. It is uncertain whether the funding will continue. If that is not the case, it is clear that the department

will have to shrink to compensate for the loss of research funding. Moreover, the Executive Board will not continue to finance the two additional places.

There are three causes for the declining income: (i) the salary increase has not been sufficiently compensated; (ii) the number of students at UT is decreasing; (iii) the number of students in our programme is decreasing.

We can not influence the first two points ourselves. These political choices limit the international inflow and compensate the salaries insufficiently. We must focus intensely on increasing our student inflow in the coming years. There are certainly opportunities for this because our programme is continuously receiving good assessments and we have an exciting range of courses in data science. There is work to be done.

A Personal impression sectorplan employees

The contributions in this appendix are from the people themselves.

A.1 Clara Stegehuis



Figure 1: Picture of a social media network

Embedding in the Department/National/International Context

Clara Stegehuis is embedded within the Department of Applied Mathematics at the University of Twente. Her work is recognized nationally in the Netherlands, particularly through her active involvement as a board member of the Dutch Network Science Society and as one of the core members of the new collaborative platform for epidemiology at the RIVM (National Institute for Public Health and the Environment). Internationally, she collaborates with several researchers on random graph theory and its applications, such as the University of Sao Paulo, Karlsruhe Institute of Technology, and Aalto University. She is also one of the organizers of the largest international conference in Network Science in 2025 that will take place in Maastricht.

Main Research Results

Stegehuis' research primarily focuses on random graph theory, aiming to understand the link between the structure and dynamics of complex networks. One of

her recent results includes mathematical results for the impact of contact tracing on the behaviour of epidemics in large-scale networks. Her studies on network motifs and small statistically significant network patterns have also led to better statistical network tests and more efficient algorithms to sample such small network structures. Her work on 5G networks has provided practical insights into the resilience properties of cellular networks, particularly regarding resource sharing between mobile network operators.

Additional Money Acquired for Research

Clara Stegehuis has been awarded a Veni grant from the Netherlands Organisation for Scientific Research (NWO) aimed at early-career researchers. Furthermore, she has acquired a collaborative grant from NWO, allowing her to work on an interdisciplinary project involving network science and chemistry (co-PI Dr Albert Wong). She has also been awarded an internal project from the EEMCS faculty for an interdisciplinary project on the energy efficiency of wireless networks (co-PIs Dr Suzan Bayhan and Dr Harijot Bindra).

Vision for Future Research

Looking ahead, Clara Stegehuis envisions expanding her research on the boundary between mathematics and network science. She aims to integrate machine learning techniques with traditional graph theory to develop models that effectively handle large and dynamic networked data. Her future projects will focus on applications of these models in various domains, including epidemiology, social network analysis, and chemistry. She is committed to collaborating across disciplines to explore the intersections of network science with other disciplines and already has several ongoing projects with UT researchers from different faculties.

A.2 Katherina Proksch

Embedding in the Department/National/International Context

Katharina Proksch is a member of the Statistics group embedded in the Department of Applied Mathematics at the University of Twente.

On the topics of multiple testing, geometric and functional data analysis, and their applications to imaging and multi-channel sensor data analysis, she collaborates with UT colleagues from statistics, electrical engineering, computer science, and technical medicine and with scientists from the start-up You2Yourself. Internationally, she works with researchers from the University of Canterbury (New Zealand), the University of California at Davis (USA), the universities of Cologne, Würzburg, Marburg, and Göttingen (Germany), and the Pasteur Institute Paris (France).

Katharina Proksch particularly engages in fostering academic-industrial-societal exchange and collaborations via the organization of public events and workshops such as *Study Group Mathematics with Industry 2022*, or a public symposium on recent advances in sports data measurement and analysis at UT.

Main Research Results

In her research, Katharina Proksch employs modern mathematical techniques from statistics, inverse problems, and machine learning to develop a novel statistical methodology, which she uses to analyze data from various fields, e.g., physics, biology, and medicine.

In a recent article published in *Microscopy*, she provided the mathematical foundation for a whole class of machine learning strategies for image segmentation via a new statistical validation approach based on multiple testing (see Figure 2). The article was featured as *editor's choice*. She further derived several new results on average nearest neighbour distributions in complex spaces, which she used to improve the significantly methodology employed for the analysis of super-resolution visualization of human chromosomal regions via SMLM imaging from previous works.

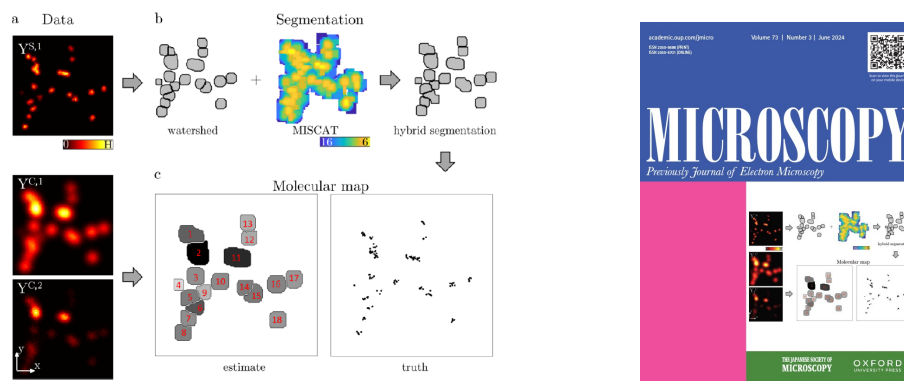


Figure 2: Pipeline for image segmentation based on multiple testing.

Additional Money Acquired for Research

Katharina Proksch raised industry funding for her research on the analysis of longitudinal microRNA biomarker data using machine learning. Furthermore, she has been awarded an internal grant from the EEMCS faculty for the interdisciplinary project *Sports, data and interaction* jointly with Dr. Jasper Reenalda and Dr. Dennis Reidsma.

Vision for Future Research

Combining her interdisciplinary expertise and recent research results based on multiple testing and geometric data analysis, Katharina Proksch aims to develop a systematic approach to incorporate general structural information into multiple testing procedures through a novel geometric approach. This will advance the currently available methodology and allow optimal detection in several big data applications. As such, the new methodology will move her ongoing multidisciplinary collaborations forward.

A.3 Annika Betken

Embedding in the Department/National/International Context

On a national level, Betken is connected to the extreme value theory community. In March 2023, she presented her results on identifying changes in the tail index of time series within the EVTA (Extreme Value Theory and Application) seminar series in Amsterdam. Betken is currently working on a joint project with Svenja Fischer (assistant professor in the group “Hydrology and Environmental Hydraulics” within the department of environmental sciences at the University of Wageningen) on volatility changes in hydrological data and multi-armed bandit problems with Wouter Koolen (CWI and professor at UT) and her PhD student Hongwei Wen. On an international level, Betken has a close connection to Alexander Schnurr (associate professor at the University of Siegen) through joint work on ordinals in multivariate observations (so-called depth patterns), research visits and the organization of a workshop on theory and applications of ordinal pattern to be located on the UT campus in April 2025. Betken retains further international collaborations through ongoing research projects with Marius Kroll and Herold Dehling (postdoc and full professor at the Ruhr-University Bochum), Martin Wendler (lecturer at the Otto von Guericke University Magdeburg), Davide Giraudo (associate professor at the University of Strasbourg), and Marie-Christine Düker (assistant professor at Friedrich-Alexander University Erlangen-Nürnberg).

Main research results Since employment by the University of Twente under the sector plan, Betken broadened her research profile beyond the field of time series analysis. The resulting research output also reflects this: With Katharina Proksch and Aljosa Marjanovich (PhD student), she works on two-sample homogeneity testing based on interpoint distances, which finds application in small samples of high-dimensional data as is notorious for, e.g., microarray data in genetic studies. A corresponding research article has recently been submitted to “Biometrika”. Joint supervision of Betkens PhD student Hongwei Wen by Hanyuan Hang supported her in gaining access to Machine Learning related topics such as Transfer Learning and resulted in a conference contribution (“Class Probability Matching with Calibrated Networks for Label Shift Adaption”) to the “International Conference on Learning Representations (ICLR) 2024” and a submission (“Class Probability Matching Using Kernel Methods for Label Shift Adaptation”) to “Journal of Machine Learning Research”,

Betken continued her collaborations on projects within the field of time series analysis: the article “Rank-based change-point analysis for long-range dependent time series”, joint work with Martin Wendler, has been published in “Bernoulli” in 2022.

Additional money acquired for research Betken obtained a VENI grant in 2022, shortly after her employment at UT.

Vision for future research For future research projects, she envisions to harness synergy effects from the different fields in mathematical statistics and theoretical machine learning she has worked on within the last years. Together with Wouter

Koolen and the jointly supervised PhD student Hongwei Wen, she intends to make use of Hongwei Wen's and my experience concerning transfer learning for a refined analysis of regret minimization in multi-armed bandit problems through the inclusion of additional side information. Moreover, she plans to bring her expertise in asymptotic theory for time-dependent data for the mathematical analysis of an application of convolutional neural networks to time series data. On this subject, she will be collaborating with Johannes Schmidt-Hieber and her PhD student, Giorgio Micali. Furthermore, she expects ordinal pattern analysis of time series data to benefit from the incorporation of already established results from the field of copula theory. Her vision for future research, therefore, comprises an exploration of how copula theory could push theoretical results and substantiate established practice within the field of ordinal pattern analysis.

A.4 Ruben Hoeksma

Embedding in the Department/National/International Context

Ruben Hoeksma is employed by the faculty of Electrical Engineering, Mathematics, and Computer Science of the University of Twente within the Department of Applied Mathematics. He is recognised for his work, both nationally and internationally. He has finished and is currently collaborating with researchers from many countries such as France, Germany, Switzerland, Denmark, Italy, Poland, and Chile. He co-organised the Dutch Day on Optimization 2024. In 2025, he will be one of the organisers of the CWI Research Semester Programme on Learning Enhanced Optimisation, which aims to bring together junior and senior researchers to jointly exchange ideas, develop knowledge and tackle fundamental challenges at the intersection of optimisation and machine learning.

Main Research Results

Ruben's research mainly focuses on optimisation under uncertainty, with different flavours. These include the more traditional model of online optimisation, which analyses worst-case guarantees in models where the future is entirely unknown, as well as optimal stopping problems such as prophet inequality and secretary problems, and optimisation problems with robustness constraints. He analyses many of these concepts in the context of scheduling problems and other traditional combinatorial structures. More recently, a new uncertainty model has arisen that treats unreliable predictions as a beyond-worst-case model. Ruben's work on paging with succinct predictions analyses the well-known paging problem with predictions that can be represented with limited resources.

Vision for Future Research

In the future, Ruben expects that beyond-worst-case models, such as the one with unreliable predictions, will become more important as they partly bridge the gap between theory and practice. Therefore, he aims to expand his research in that direction. He intends to incorporate more real-world challenges like energy efficiency into this research.

A.5 Mengwu Guo

During Mengwu Guo's stay at UT (02/2021 – 03/2024), Sectorplan Bèta supported his research in Computational Science, as well as a doctoral student and a postdoctoral researcher supervised by him. Guo's research was focused on developing novel data-driven numerical methods for uncertainty quantification, model reduction, and physics-aware machine learning, particularly featuring an interdisciplinary taste across computational mathematics, machine learning, and simulation science. His main research results include 1) the systematical development of a probabilistic framework for learning compact dynamical representations of nonlinear systems from data, 2) several neural network models for multi-fidelity data fusion, and 3) the integration of Gaussian processes and deep neural networks for approximating dynamical systems and PDEs. These results have been reflected by nine articles published in top international journals, two book chapters, and three preprints currently under review. Many of these papers were co-authored with international collaborators, e.g., from Politecnico di Milano (Italy), EPFL (Switzerland), The University of Texas at Austin (US), and the University of Washington (US). In the Mathematics of Imaging & AI group at UT, Guo contributed significantly to the new research direction on scientific machine learning with uncertainty quantification. Together with A. Heinlein from TUD, Guo initiated and coordinated a Strategic Research Initiative on *Bridging Numerical Analysis and Machine Learning* supported by 4TU.AMI. Under this umbrella, he co-organized two workshops within CWI's semester research program on Scientific Machine Learning in autumn 2024. In addition, he has been an active reviewer for more than 20 internationally reputable journals in computational science, engineering, and mathematics and gave about 30 invited talks in seminars, workshops, and conferences during his position at UT. Mengwu Guo left UT in March 2024 for personal reasons, primarily seeking a more internationally inclusive living environment.