

Improving the lives of  
those at risk or  
affected by cancer

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## Overview 2020



UMC Utrecht

Strategic Program Cancer

# Mission & ambition



Elsken van der Wall

**The Strategic Program Cancer aims to be a world-leading cross-disciplinary Cancer platform for research and innovation that focusses on improving the outcome of those at risk or affected with cancer. Our vision is to cover fundamental, translational, clinical and real world data science that delivers breakthrough innovations in individualized prevention, early diagnosis, treatment and supportive care.**

In the beginning of 2020 no one could have envisioned the turmoil the world enrolled in as of March. Since then, the pandemic has had a large effect on our private lives and on the way we are used to do our research, education and care. Laboratory and clinical research in the beginning came to a nearly full stop and teaching became fully digital. During the year luckily some adjustments could be made, allowing clinical research and laboratory experiments to be resumed within measures, as was some live teaching. Given all the restrictions, it has been amazing the amount of work that is achieved, including top-notch papers, grants, PhD defenses, awards, bachelor-and master degrees, webinars etc; an

illustration of the great resilience and dedication there is, even in difficult times, to support our Mission: 'improving the outcome of those at risk or affected with Cancer'.

We do hope you will enjoy this Overview 2020, providing you with some examples to illustrate the good work, done within our strategic program. Special attention is asked for our patient sounding board which was initiated in 2020, certainly a Highlight worth mentioning. We have been very lucky with the expertise of our members as can be read from their short bio.

We look forward to 2021, a year in which we will finalize our 5-yr Strategy with all the input that we gathered from our research-leaders at the meeting in last December. But most of all a year in which hopefully restrictions will loosen up and we will be able to meet and greet again as in older times.

On behalf of the Daily Board,  
Prof. dr. Elsken van der Wall

## Disclaimer

This document is in English but occasionally an URL address is used that refers to Dutch-language content. In those cases unfortunately the content is not available in English.

In this overview we give you an impression of our activities in 2020. It is certainly not a complete list of all our efforts and results.

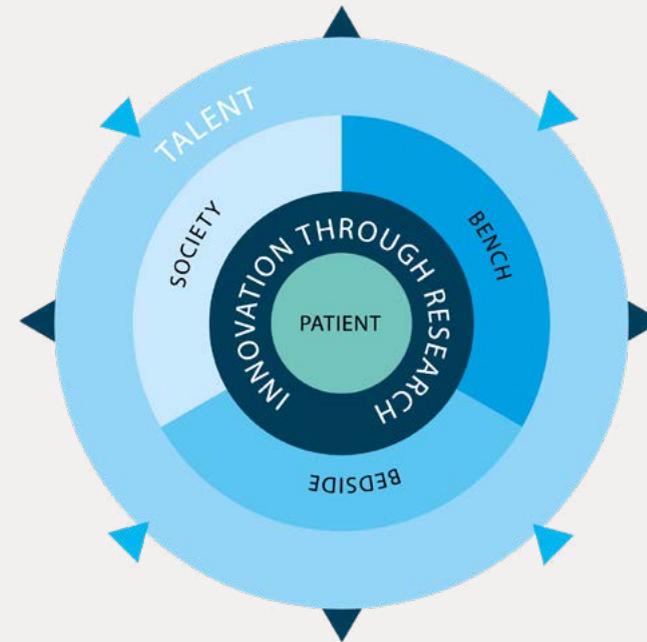
# Strategy

## Mission

We all share one mission:

**To improve the lives of those at risk or affected with cancer.**

- A mission that needs **innovations** in fundamental, translational and clinical sciences covering prevention, early diagnosis, individualized treatment and supportive care.
- A mission that will be fostered by our continuous flow of **talents** that work cross-disciplinary.
- A mission that needs **structural collaborations** with all stakeholders.



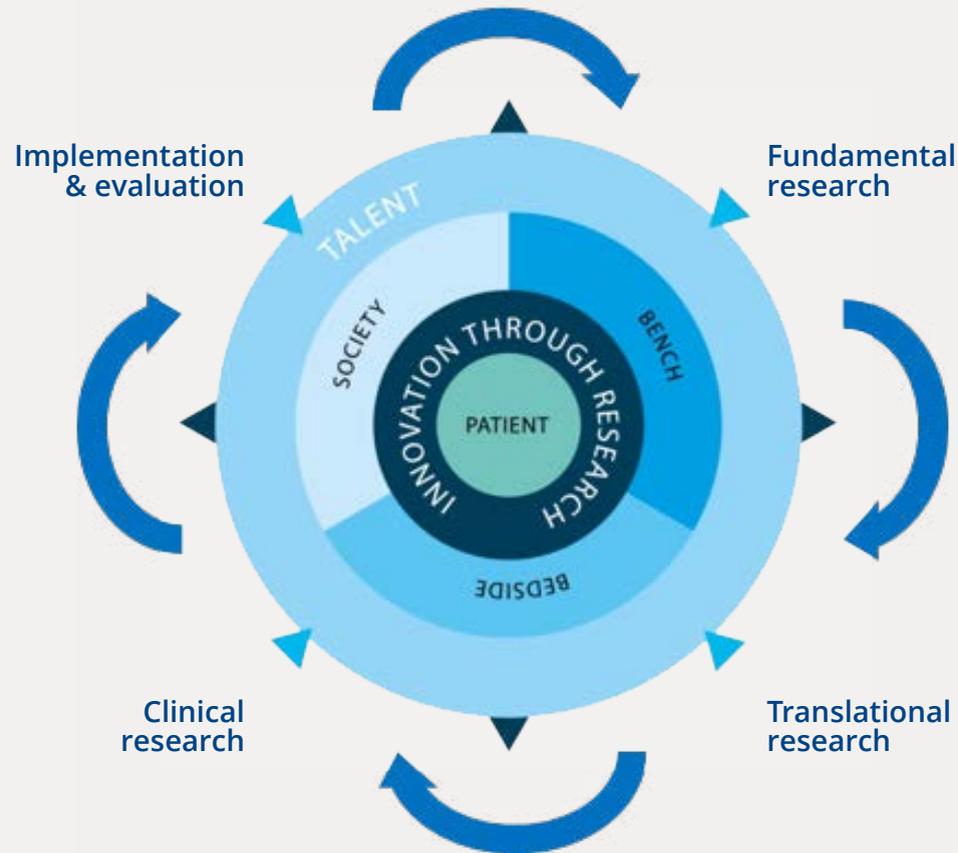
# Strategy

## Ambition

### Our ambition is to:

- Encourage **multidisciplinary collaborations** and foster talent.
- Translate unique **fundamental knowledge** into clinical applications with societal impact (sustainable, affordable, accessible).
- Enable **early diagnosis** to prevent or mitigate disease and postpone hospital care.
- Designing **precise and personalized** interventions based on molecular profiling, immune profiling and imaging.
- Using **real life data**, advanced **disease models** and **imaging** to predict clinical outcome of interventions.
- Develop interventions that ensure high quality of life during **survivorship and palliative care**.

### Innovation Cycle



# Fundamental research

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Our fundamental cancer research focuses on understanding the molecular and cellular basis underlying tumor formation. This entails studying the involved cellular signaling pathways that are aberrantly regulated in cancer and that provide the basis for the 'hallmarks of cancer' such as genome instability and uncontrolled proliferation. Furthermore we study mechanisms of therapy resistance as well as the interaction between tumor cells and its microenvironment.

The enormous heterogeneity of tumors and the multitude of resistance mechanisms, even within one patient, makes this a challenging task. Knowledge generated from this research will be used to generate new potential diagnostics and therapeutic leads in the translational research of the Strategic Program Cancer.



# Highlights in fundamental research

2020



## New knowledge of the role of proteins in final phase cell division

Cell divisions are constantly taking place in our body to maintain and repair tissues. If cell division does not proceed properly, cancer can develop. During her PhD in the lab of Susanne Lens, Ingrid Adriaans studied the last phase of cell division: cytokinesis, in great detail. She gained mechanistic insights into the function of a number of proteins that control the actual splitting of one cell into two. These insights may help in the search for the development of cancer therapies.

[Read more about last phase of cell division >](#)

[Read more about Motile that Transports the Chromosomal Passenger Complex during Anaphase >](#)

# Highlights in fundamental research

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2020

Paul Coffey



Jacco van Rheenen



C/EBPA is crucial determinant of epithelial maintenance by preventing epithelial-to-mesenchymal transition

Paul Coffey, together with Jacco van Rheenen, showed that the transcription factor C/EBPA is an inhibitor of epithelial-to-mesenchymal transition (EMT). Its expression is downregulated as cells become more mesenchymal and metastasize. If you re-express it then you can convert cells back to an epithelial phenotype and prevent metastasis.

[Read more about preventing epithelial-to-mesenchymal transition >](#)

# Highlights in fundamental research

2020



Chris de Witte

## Medication test on cultured ovarian tumor possible

It has recently become possible to cultivate mini ovarian tumors in ovarian cancer from tumor cells of a patient in the lab in order to test drugs for them. Medical researcher Chris de Witte shows that the response of these mini-tumors to drugs predicts the response in this patient quite accurately. The DNA characteristics of the tumor also appear to determine treatment success. In the future, these findings may help to provide patients with tailor-made treatment and thus increase survival chances. Chris de Witte obtained her doctorate for this research on 17 September.

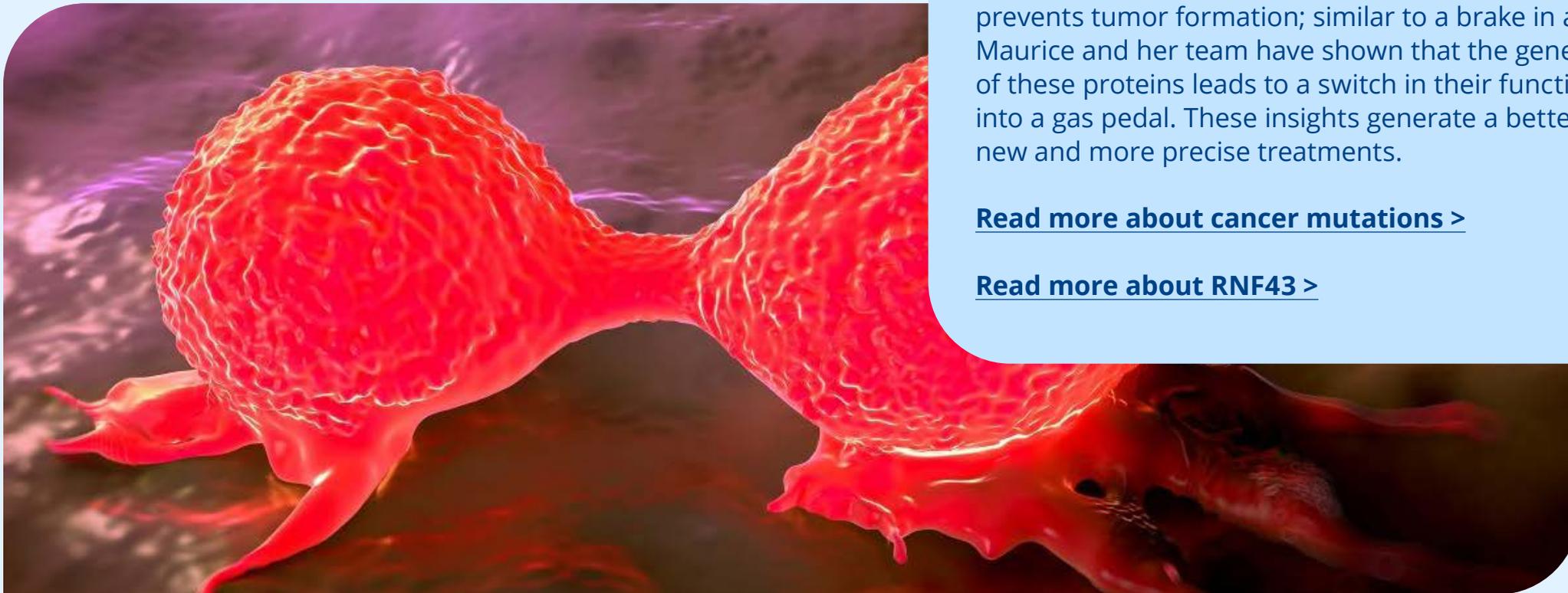
[Lees meer over medicatietest op gekweekte eierstoktumor >](#)

[Read more about patient-Derived Ovarian Cancer Organoids Mimic Clinical Response >](#)

# Highlights in fundamental research

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2020



## Cancer mutations convert an inhibitory protein into an accelerator for tumor growth

Cancer-inhibiting proteins, so-called tumor suppressors, play an important role in the prevention of uncontrolled cell division. This prevents tumor formation; similar to a brake in a car. Madelon Maurice and her team have shown that the generation of a fragment of these proteins leads to a switch in their function, turning the brake into a gas pedal. These insights generate a better starting point for new and more precise treatments.

[Read more about cancer mutations >](#)

[Read more about RNF43 >](#)

# Highlights in fundamental research

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2020

**Since we cannot highlight all fundamental research performed last year, here a few examples of our other fundamental research projects:**

- [Integrated super resolution fluorescence microscopy and transmission electron microscopy.](#)
- [γ9δ2T cell diversity and the receptor interface with tumor cells.](#)
- [Pan-cancer landscape of homologous recombination deficiency.](#)
- [Mitochondria Define Intestinal Stem Cell Differentiation Downstream of a FOXO/Notch Axis.](#)
- [Calorie Restriction Increases the Number of Competing Stem Cells and Decreases Mutation Retention in the Intestine.](#)
- [Cysteine oxidation triggers amyloid fibril formation of the tumor suppressor p16 INK4A.](#)
- [RAINFOREST: a random forest approach to predict treatment benefit in data from \(failed\) clinical drug trials.](#)

# Translational research

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Translational research facilitates movement of new ideas and treatments from the laboratory to the clinic, as well as the movement of clinical observations from the clinic to the laboratory. This program aims to create a 'translational research cycle'. In which fundamental knowledge drives new potential diagnostics, therapeutic leads and innovative trial design and vice versa help to shape new fundamental research questions. All based on data from clinical studies.



# Highlights in translational research

2020

## The Rastric trial

Patients with colorectal cancer and a mutation of the RAS gene, have a worse prognosis than patients without this mutation, because their treatment options are limited. Despite decades of attempts to target the RAS mutation, there is currently no effective targeted treatment. Hugo Snippert and Hans Bos (both CMM in the UMC Utrecht) found a combination of three readily available drugs, that was effective in the lab on models of this disease. Based on this work, a phase I / II clinical trial has started. The RASTRIC trial is a first-in-human clinical trial to test this new combination.

[Read more about a large variation in histologic grading of breast cancer between pathology laboratories >](#)

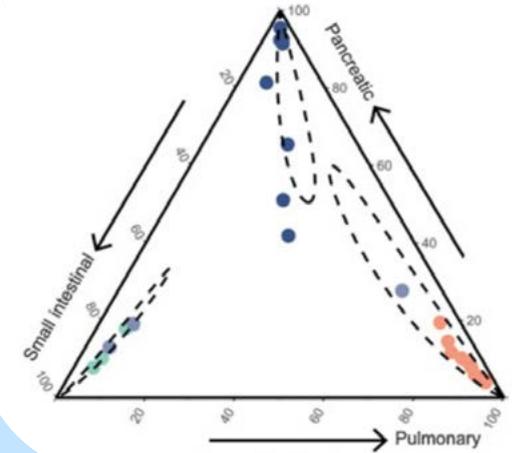


## Genome Methylation Accurately Predicts Neuroendocrine Tumor Origin: An Online Tool

*Gastrointestinal pathology research group*

The primary origin of neuroendocrine tumor metastases can be difficult to determine by histopathology alone, but is critical for therapeutic decision making. DNA methylation-based profiling is now routinely used in the diagnostic workup of brain tumors. This has been enabled by the availability of cost-efficient array-based platforms. These efforts are extended to augment histopathologic diagnosis in neuroendocrine tumors.

This DNA methylation-based prediction model can be used in the workup for patients with neuroendocrine tumors of unknown primary. To facilitate validation and clinical implementation, we provide a user-friendly, publicly available [web-based version of NEN-ID >](#)



# Highlights in translational research

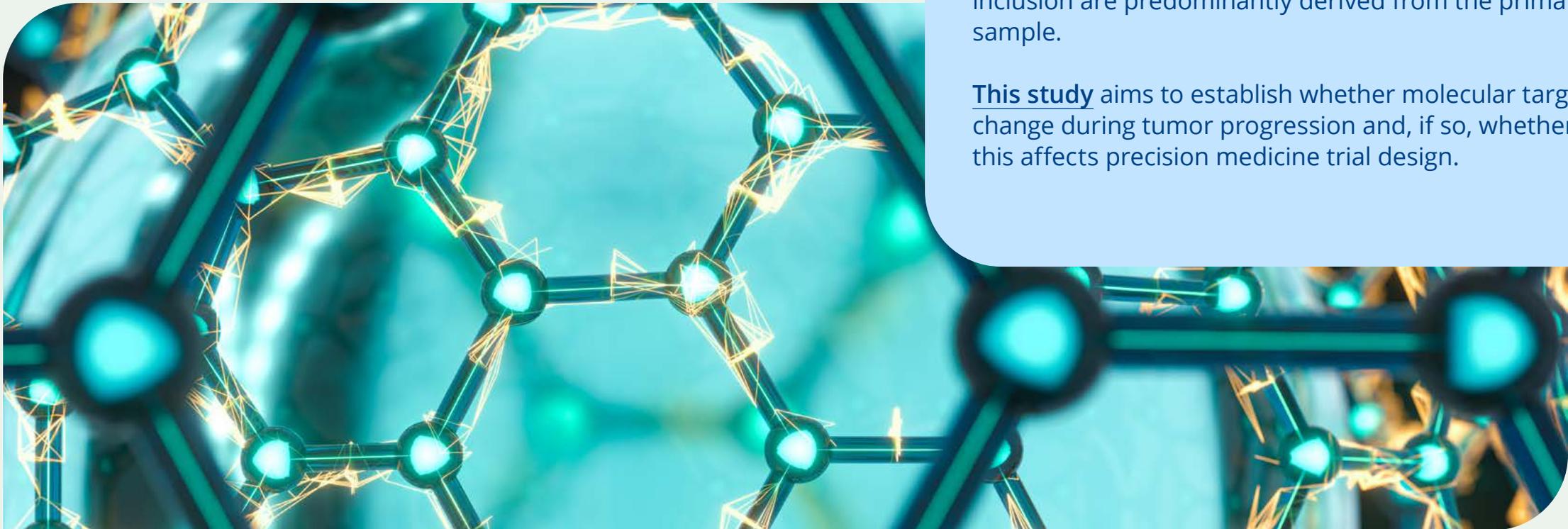
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2020

## Therapeutic strategies of recurrent glioblastoma and its molecular pathways

Precision medicine trials in glioblastoma (GBM) are often conducted at tumor recurrence. However, second surgeries for recurrent GBM are not routinely performed, and therefore, molecular data for trial inclusion are predominantly derived from the primary sample.

This study aims to establish whether molecular targets change during tumor progression and, if so, whether this affects precision medicine trial design.



# Highlights in translational research

2020

Trudy Straetemans



Moniek de Witte

## TEG cells targeting cancer as a metabolic disease

Even in the era of advanced molecular drug design, with novel agents targeting defined mutations and low toxicity transplantation platforms, treatment of leukemia remains a major challenge, associated with high toxicity and a high incidence of relapse. After a decade of fundamental and translational work in the Kuball laboratory, the first-in-man TEG001 cell study has started (clinical PI dr Moniek de Witte, TEG001 manufacturing dr. Trudy Straetemans). The study is based on a novel concept with genetically modified autologous T cells targeting cancer as a metabolic disease and is being tested in an academic phase I safety study in patients with AML or MM. TEG001 cell manufacturing under GMP is performed at the UMC Utrecht Cell Therapy Facility and is a joint effort between the research group of Straetemans and the facility. The first dose level has been safely completed and in 2020 the first patient in the second dose level has been treated. December 2019 Straetemans received a KWF grant to support the clinical study and production in order to complete the study and define the maximum tolerated dose of TEG001 in human. With TEG001 cells we aim to create a more effective cure, with less toxicity and a better quality of life.

# Highlights in translational research

2020

**Because we can not highlight every translational research that is done last year, here are some (random) examples of more of our translational research:**

- [Genomic characterization of malignant progression in neoplastic pancreatic cysts.](#)
- [Associations of non-pedunculated T1 colorectal adenocarcinoma outcome with consensus molecular subtypes, immunoscore, and microsatellite status: a multicenter case-cohort study.](#)
- [Killer cell proteases can target viral immediate-early proteins to control human cytomegalovirus infection in a noncytotoxic manner](#)
- [Molecular Evolution of IDH Wild-Type Glioblastomas Treated With Standard of Care Affects Survival and Design of Precision Medicine Trials: A Report From the EORTC 1542 Study](#)
- [Effect of radiation therapy on cerebral cortical thickness in glioma patients: Treatment-induced thinning of the healthy cortex](#)
- [Molecular Evolution of IDH Wild-Type Glioblastomas Treated With Standard of Care Affects Survival and Design of Precision Medicine Trials: A Report From the EORTC 1542 Study.](#)
- [Cognitive impairments are independently associated with shorter survival in diffuse glioma patients.](#)
- [Genome Methylation Accurately Predicts Neuroendocrine Tumor Origin: An Online Tool.](#)
- [The Management of Neuroendocrine Tumors of the Lung in MEN1: Results From the Dutch MEN1 Study Group.](#)

# Clinical research



Learn from the data that every patient that we care for provides us. That forms the basis of our clinical research, where clinical challenges lead to new fundamental questions and new fundamental findings find their way into daily practice. Our ambition requires access to real world data through comprehensive clinical cohorts as well as unique therapeutic facilities and techniques to facilitate first in men to phase III studies. Regular scientific meetings between clinical and fundamental scientist are crucial to ask the right questions leading to rapid implementation of novel concepts into the clinic.

Research within the team clinical of our Strategic Program is performed by cancer researchers from all 7 related UMC Utrecht divisions.

# Highlights in clinical research

2020

## Informing metastatic colorectal cancer patients by quantifying multiple treatment scenarios

There is the wide belief, based on trial data that median overall survival of metastatic colorectal cancer patients receiving systemic therapy has improved substantially in the last decade. However, improvement could not be demonstrated in our real-life population. Therefore, when informing patients about their life expectancy, clinicians should consider quoting multiple survival scenarios based on real-life data instead of the median overall survival from clinical trials.



Patricia Hamers

Publication in the International Journal of Cancer by a.o. Patricia Hamers (UMC Utrecht) and Geraldine Vink (UMC Utrecht/IKNL).

[Read more >](#)



Miriam Koopman

## First case study 'Regie op Registers' will be colon cancer

*(interview with prof. dr. M. Koopman UMC Utrecht, from the Nieuwsbrief Regie op Registers).*

A plethora of small cohorts with each their own database will not sufficiently provide the answers you are looking for. You want to be able to combine large patient ( bio-) data to be able to properly select the essential issues to focus on.

The PLCRC cohort has been selected as the first case study for 'Regie op Registers voor Dure Geneesmiddelen'. Internist oncologist Prof. dr. Miriam Koopman is delighted. "My ultimate goal is the full integration of colon cancer treatment and research. Only then we will be able to offer patients the treatment that personally best suits them. Regie op Registers brings that closer."

Here you will find the [interview](#) (in Dutch).

# Highlights in clinical research

2020



## Reduced Lung-Cancer Mortality with Volume CT Screening

There are limited data from randomized trials regarding whether volume-based, low-dose computed tomographic (CT) screening can reduce lung-cancer mortality among male former and current smokers.

In this randomized controlled trial, involving high-risk persons, lung-cancer mortality was significantly lower among those who underwent volume CT screening than among those who underwent no screening. There were low rates of follow-up procedures for results suggestive of lung cancer. [Reduced Lung-Cancer Mortality with Volume CT Screening in a Randomized Trial.](#)

[Read more >](#)

# Highlights in clinical research

2020



Lenny Verkooijen

**EBCC**  
European  
Breast Cancer  
Conference **12**

## Increased risk of cardiovascular disease in women treated for breast cancer can be predicted with computer analysis of routine scans

Automated analysis of breast cancer patients' routine scans can predict which women have a greater than one in four risk of going on to develop cardiovascular disease, according to research presented by prof. Lenny Verkooijen at the 12th European Breast Cancer Conference.

Verkooijen: "We've seen great improvement in breast cancer survival, thanks in part to better treatment. However, treatments have side effects and some treatments – such as radiotherapy and certain types of cancer drug – can increase the risk of cardiovascular disease. In my opinion, treating breast cancer means finding the right balance between maximising chances of tackling the tumour, while minimising the risks of side effects, including the risk of cardiovascular disease."

[Read more >](#)

# Highlights in clinical research

2020

**Since this 2020 Overview provides only a small selection of all the research that has been done last year, here are some (random) examples of other clinical research performed by our researchers.**

- [Consensus treatment recommendations from the tenth International Workshop for Waldenström Macroglobulinaemia.](#)
- [Prognostic factors for overall survival of stage III non-small cell lung cancer patients on computed tomography: A systematic review and meta-analysis.](#)
- [Daratumumab plus CyBORd for patients with newly diagnosed AL amyloidosis: safety run-in results of ANDROMEDA.](#)
- [Phosphatase PP2A enhances MCL-1 protein half-life in multiple myeloma cells.](#)
- [Dose-dependent effect of platinum-based chemotherapy on the risk of metachronous contralateral testicular cancer.](#)
- [Clinical outcome of post-chemotherapy retroperitoneal lymph node dissection in metastatic nonseminomatous germ cell tumour: A systematic review.](#)

- [Clinical outcome of robot-assisted residual mass resection in metastatic nonseminomatous germ cell tumor.](#)
- [Proof-of-concept delivery of intensity modulated arc therapy on the Elekta Unity 1.5 T MR-linac.](#)
- [Management of immune-related adverse events affecting outcome in patients treated with checkpoint inhibitors.](#)
- [Anatomically-adaptive multi-modal image registration for image-guided external-beam radiotherapy.](#)
- [Roadmap: proton therapy physics and biology.](#)
- [On the magnetic field dependence of deuterium metabolic imaging.](#)
- [magnetic resonance spectroscopy techniques in humans: Experts' consensus recommendations.](#)
- [Association of anti-TNF with decreased survival in steroid refractory ipilimumab and anti-PD1 treated patients in the Dutch Melanoma Treatment Registry.](#)
- [Management of Immune-Related Adverse Events Affecting Outcome in Checkpoint Inhibitor Treated Patients.](#)
- [Laparoscopic Versus Open Gastrectomy for Gastric Cancer \(LOGICA\): A Multicenter Randomized Clinical Trial.](#)
- [Worldwide Techniques and Outcomes in Robot-Assisted Minimally Invasive Esophagectomy \(RAMIE\): Results from the Multicenter International Registry.](#)
- [Effect of radiation therapy on cerebral cortical thickness in glioma patients: Treatment-induced thinning of the healthy cortex.](#)

## And there is more

In 2020, despite the corona pandemic, many more researchers within the Strategic Cancer Program published their research results.

More clinical research publications you can find [here](#)

# Prevention and Survivorship



2020

Prevention and Survivorship:  
**Improve healthy living and quality of life.**

As the number of cancer patients continues to rise and survival improves, more patients are living with the long-term consequences of cancer. At the same time still 40% of all patients die from this disease. These observations necessitate research into the possibilities for prevention and early diagnosis on the one hand, and on improvement of treatments, quality of life and palliative care, on the other hand.

Research within the theme “Prevention and Survivorship” in the UMC Utrecht is primarily performed by cancer researchers from the divisions Julius Center and Imaging & Oncology, and of the department of Pathology. Professionals within this theme collaborate closely with the fundamental, translational and clinical scientists to address the crucial questions to be solved in prevention and survivorship issues.

# Highlights in prevention and survivorship

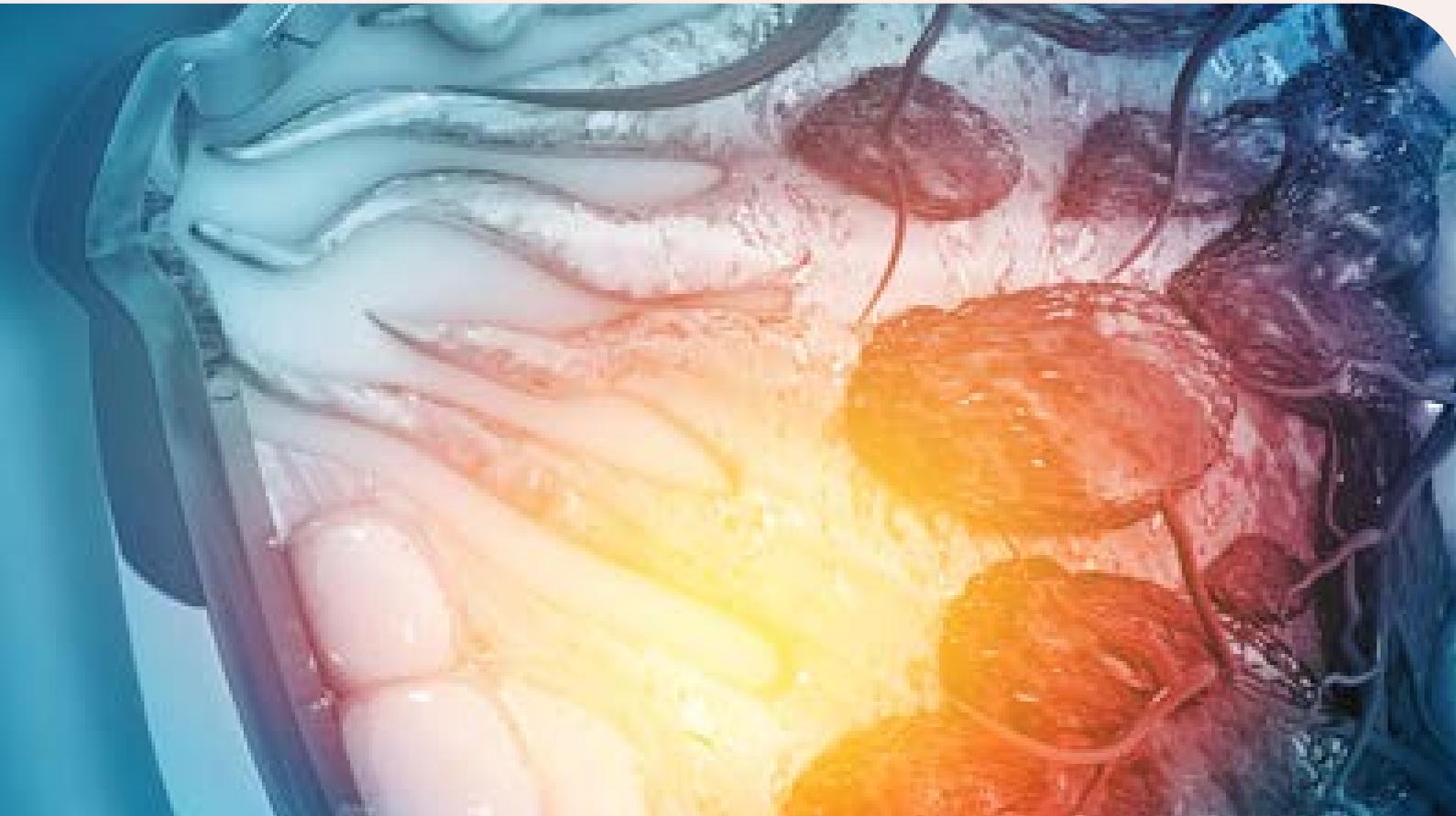
2020



## New research reveals effects of COVID-19 on breast cancer screening, treatment and care

An increase in deaths could be prevented by ensuring older women do not miss final screening. How does the COVID-19 pandemic affect the daily lives of women diagnosed with breast cancer? Dr Claudia Bargon, clinician and PhD student at University Medical Center Utrecht (UMC Utrecht), presented this study at the (online) European Breast Cancer Conference (EBCC).

[Read more >](#)



# Highlights in prevention and survivorship

2020

## Cancer patients want their GP's involvement

Cancer patients need more involvement from their general practitioner (GP) after the diagnosis in hospital, including joint decision-making for treatment. However, planning such a joint process is a major challenge.

[Read more >](#)

## Dutch GPs promptly refer patients with symptoms that may indicate cancer

The duration of the diagnostic interval in the general practice (GP) is generally similar to- or shorter than that in other countries with gatekeeper based health care systems. The duration of the patient interval (between first complaints and visiting GP) and the secondary care diagnostic interval are more time consuming than the primary care interval.

[Read more >](#)



## Beneficial Effects of Exercise on Post-Chemo Fatigue

The randomized controlled OptiTrain trial showed beneficial effects on fatigue after a 16-wk exercise intervention in patients with breast cancer undergoing adjuvant chemotherapy. Exercise, including both resistance and high-intensity aerobic training, might be put forward as an effective treatment to reduce chemotherapy-induced inflammation and subsequent fatigue.

[Read more >](#)



## Communication about breast cancer

A blended training program for healthcare professionals has the potential to improve their ability to communicate effectively about breast cancer genetic counseling with patients with limited health literacy or a migrant background and offers a promising way to increase the referral rate for these groups of patients. Communication about breast cancer genetic counseling with patients with limited health literacy or a migrant background: evaluation of a training program for healthcare professionals.

[Read more >](#)

# Highlights in prevention and survivorship

2020

**Because we can not highlight every study that is done last year, here are some (random) examples of our other prevention & survivorship research:**

- [Development of a plain-language guide for discussing breast cancer genetic counseling and testing with patients with limited health literacy.](#)
- [European practice patterns and barriers to smoking cessation after a cancer diagnosis in the setting of curative versus palliative cancer treatment.](#)
- [Predicting Anxiety in Hospitalized Cancer Patients.](#)
- [Detection of breast cancer precursor lesions by autofluorescence ductoscopy.](#)
- [Association between anthropometry and lifestyle factors and risk of B-cell lymphoma: An exposome-wide analysis.](#)
- [Lessons Learned from Setting Up a Prospective, Longitudinal, Multicenter Study with Women at High Risk for Breast Cancer.](#)
- [Computer-Aided Diagnosis in Multiparametric Magnetic Resonance Imaging Screening of Women With Extremely Dense Breasts to Reduce False-Positive Diagnoses.](#)
- [Kankerzorg tijdens COVID-19 verbeteren - UMC Utrecht.](#)

# Grants

## 2020

Fortunately, the Covid pandemic did not prevent grant providers from honoring the UMC Utrecht cancer research with many grants. So that research could continue or start as usual. Unfortunately, we cannot list all grants here, but here are some completely random examples.

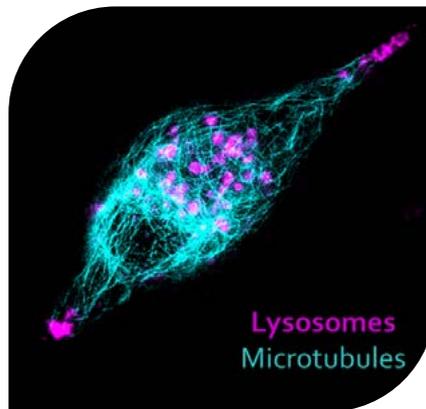
### NWO ENW-KLEIN grant

A grant for **Nalan Liv** to study the molecular mechanisms of lysosome-driven 3D cancer cell invasion by high-resolution correlative light and electron microscopy.

[Read more >](#)



Nalan Liv



### Over € 4 million for cancer research in Utrecht

September 2020 the Dutch Cancer Society (DCS) announced investing 4.4 million in 8 studies at Utrecht Science Park, of which **5 UMC Utrecht studies**. The funding of these studies enables us to realize our goal to continuously improve the outcome of patients with cancer.



# Grants

2020

## Vidi grant for a silent MRI

A silent MRI that makes the metabolic processes in the brain visible. Associate professor **Jannie Wijnen** has received a Vidi grant for this. "Our group has developed a 'super-sonic gradient', a super strong magnetic gradient for the head that fits into the MRI scanner. With this grant I will expand this concept further and use it for the development of fast and silent metabolic imaging."

Making the scan faster and silent, is not only more comfortable for the patient, but also produces better images."

More about this research and 3 more Vidi grants for UMC Utrecht (in Dutch):

[4 vidi's umc-utrecht >](#)

Also see [nwo-informatie >](#)



## And two Veni grants...

The Dutch Research Council (NWO) also awarded a Veni grant to 2 highly promising young scientists of UMC Utrecht. The grant provides the laureates with the opportunity to further elaborate their own ideas during a period of three years.

**Stefano Mandija:** *MR-based measurements of 'Tissue ElectroMagnetic Properties in radiation Oncology (TEMPO)'*: A predictive tool for early-stage assessment of radiotherapy treatments. Stefano Mandija will use his Veni grant to develop a new MRI methodology to accurately measure the electromagnetic properties of cancer tissues. The applicability of this research will be tested for diagnosis and response evaluation of brain tumor radiotherapy treatments. This will open a new window into personalized, adaptive radiotherapy treatments while improving their cost/efficiency.

# Grants

2020



**Evita Wiegers:** *No need to wait? Predicting brain cancer therapy response with metabolic MRI* Early evaluation of therapy response in brain cancer is crucial for clinical decision making.

A change in tumor morphology is a late event and therefore unsatisfactory for this goal. Evita will use novel metabolic MRI techniques to measure therapy-induced changes in biochemical processes, ultimately aimed to improve patient-specific therapy outcome.

## HTSM MWI top up grant

PI **Alessandro Sbrizzi** and co-PI **Wouter Boon** received a 250 KEuro HTSM MWI top up grant. MR-STAT is a technology that provides opportunities to improve clinical imaging through standardization of imaging protocols and AI-driven diagnostic methods. Together with potential users, the group is studying the desirability, feasibility and implementation in clinical practice of MR-STAT, which should lead to responsible development and use of such disruptive technology.

This grant will investigate the key human factors concerning the clinical acceptance and feasibility of our MR-STAT technology for novel means of MRI diagnostics.



Alessandro Sbrizzi

# Appointments

2020

In 2020 we welcomed  
4 new full professors



**Dr. Nico van den Berg**,  
Professor Computational  
imaging for MRI-guided  
therapies.



**Dr. Hjalmar van Santvoort**,  
Professor of Surgery,  
Chair of Pancreatic Diseases.



**Dr. Max (M. M) van Noesel**,  
Professor of pediatric  
solid tumors.



**Dr. Jorrit-Jan Verlaan**,  
Professor Mobility in  
Metastatic Spinal Disease.



**Inaugural lecture  
Prof. dr. Dennis Klomp**

**A view on powerful  
exchange**

Due to Covid, Aug 27 2020 for the first time in 384 years, an inaugural lecture was broadcasted live from the University Hall. This scoop was for Professor Dennis Klomp with his lecture, entitled "Powerful Exchange in Images".

**Lecture**  
**Prof. dr. D.W.J. Klomp**  
**(metascan.nl)**

# Appointments

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2020

## Associate professors



**Peter de Keizer**

Focus area: Senescence in cancer: targeting subtypes cellular senescence.

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**Martijn Intven**

Focus area: MR guided adaptive radiotherapy in the treatment of gastrointestinal tumors and the use for recta land pancreatic cancer specifically.

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**Jochem van der Voort van Zijp**

Focus area: New radiation treatment in prostate cancer.

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**Alex Poot**

Focus area: Radiopharmaceutical research: theranostics program to diagnose and treat childhood cancers.

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**Martijn Gloerich**

Focus area: Molecular Cancer Research: Mechanobiology.

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**Bart de Keizer**

Focus area: Improving diagnostic accuracy of current imaging strategies: thyroid en parathyroid imaging, head and neckcancer and pediatric oncology omaging.

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**Jeroen Hagendoorn**

Focus area: Translational and novel multimodality approaches to tumors in the liver and bile ducts.

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# Appointments

2020

## Professional appointments

### **Prof. dr. Jelle Ruurda**

(gastrointestinal and oncological surgeon UMC Utrecht) has been appointed general board member of the Federation of Medical Specialists. He is appointed for three years and will manage the portfolio innovation, science and care evaluation. He also is chairman of the Science & Innovation Council.

**Prof. Peter Luijten** has been appointed vice-dean of the strategic program Life Sciences.

Jeroen Hendrikse, professor of Radiology, succeeds Peter Luijten as medical-scientific manager and chairman of the division Imaging and Oncology.

**Prof. Lenny Verkooijen** has been appointed in the Board of the Dutch Breast Cancer Research Group. She succeeds prof. Ruud Pijnappel. [BOOG borstkanker onderzoek groep](#)

**Dr. Ina Jürgenliemk-Schulz** is since April 2020 chair of GEC-ESTRO, which is the brachytherapy section of the European scientific society for radiotherapy (ESTRO).

**Prof. dr. C.J.A. (Kees) Punt** medical oncologist.

Since his retirement Kees Punt works at the Julius Center. Here he will continue to supervise 6 PhD students (1 in UMC Utrecht), as well as the existing collaboration with Prof. Anne May, Prof. Onno Kranenburg, and the colorectal research group of the Department of Medical Oncology at UMC Utrecht.

**Dr. Yvonne Vercoulen** is appointed as a selected member of Utrecht Young Academy.

# Awards

2020

By no means 2020 was a lost year, especially in terms of awards won.

Again, just a small random selection of the winning scientists that we had among us in 2020.

First report of clinical MRI-Linac treatments wins journal citations prize



A research paper describing the first clinical use of a 1.5 T MRI-Linac for MRI-guided radiotherapy has won its authors the 2020 Physics in Medicine & Biology (PMB) citations prize. This annual prize recognizes the PMB paper that received the most citations in the preceding five years.

Saal van Zwanenberg Research Award

Rik Verheyden, PhD candidate immuno-oncology. His research 'The side effects of immunotherapy in cancer' was awarded with the third place of the Saal van Zwanenberg Research Award (KHMW).



KONINKLIJKE  
HOLLANDSCHE MAATSCHAPPIJ  
DER WETENSCHAPPEN

Editors' Medal 2020

Congratulations for Arthur Braat, Nuclear Medicine Physician, et al. They have been awarded the Editors' Medal 2020 for their paper: Radioembolization With 90 Y Resin Microspheres of Neuroendocrine Liver Metastases: International Multicenter Study on Efficacy and Toxicity published in the international scientific journal CardioVascular Interventional Radiology.

Junior publication award



Stephanie de Lange won the junior publication award from the Association for Epidemiology in 2020 for the DENSE paper in the New England Journal of Medicine.

Leo ten Kate Innovation Award

Marc van Mil received the Leo ten Kate Innovation Award for his innovative commitment to education and research in the field of genetics. Van Mil is educational innovator in the Biomedical Sciences program and associate professor of Biomedical Sciences. This prize is awarded annually (by the NACCG) to a talented researcher, research group or other initiative that has devoted special attention to community genetics and/or public health genomics within scientific research or otherwise.

# Interaction

2020

## Regional Oncology Network

Cancer requires the very best care. That is why experts from various hospitals in the center of the Netherlands are joining forces in Oncomid. The hospitals St. Antonius, Diaconessenhuis, Meander Medical Center, Rivierenland, Tergooi and UMC Utrecht are united in this regional oncology network.

[More about Oncomid](#)



## Warm plea for innovation clinic

"We have to organize our care in such a way that we can actually learn from each patient without losing valuable information. A so-called innovation clinic makes that possible." Prof. Lenny Verkooijen made a warm plea for this in a short webinar about [learning from implementation](#), organized by the Information Council of the Dutch Health Department.



Alessandro Sbrizzi and Nico van den Berg

## Research partnership MR-STAT

During ISMRM 2020, UMC Utrecht and Philips kicked off a research partnership to advance precision diagnosis through breakthrough quantitative MRI technology MR-STAT. The exclusive, multi-year research partnership will establish a global clinical research network with the aim of fully commercializing the technology, which has initially been developed here at UMC Utrecht.

MR-STAT is a paradigm shift in MR, relying on a new smart acquisition scheme and machine-assisted reconstruction. MR-STAT delivers multiple quantitative MR parameters in a single fast scan, and represents a significant advance in MR tissue classification, fueling big data algorithms and AI-enabled integrated diagnostic solutions. **From 25 to just 5 minutes in the MRI scanner:** this animation explains the technique. In this [Philips article](#) you read about the partnership. More information about MR-STAT and researchers, Dr. Alessandro Sbrizzi and Prof. Dr. Nico van den Berg (chair of the computational imaging group at UMC Utrecht) is on [our website](#).

# Interaction

2020

## New research into childhood cancer

In 2020 the Princess Máxima Center and UMC Utrecht signed a new and promising collaboration agreement.

This collaboration concerns three innovative research projects, directed by Elsken van der Wall (chair of the Strategic Program Cancer) and Peter Luijten (in 2020 Chair of the division Imaging & Oncology) of the UMC Utrecht and Laurens van der Flier and Frank Holstege on behalf of the Princess Máxima Center.

[New research into childhood cancer >](#)



## Cancer and Corona: “Difficult choices and positive changes” *(Unfortunately the article is not available in English)*

The Dutch Cancer Society produced an online magazine about cancer and corona. Stories about patients and doctors, research on corona in cancer and the measures that hospitals take to safely treat (cancer) patients.

“This crazy time also brings us positive changes”, says **Joost Verhoeff**, radiotherapist and oncologist. [Read or download here](#) his personal contribution.

KWF Kanker en corona.pdf



Joost Verhoeff



# OncoCareer Board (OCB)

2020

## The OncoCareer Board: A supportive network

Nine enthusiastic early-career scientists from different departments within the Strategic Program Cancer of the UMC Utrecht form together the OncoCareer Board (OCB). The OCB provides a supportive network for early-career scientists (assistant professors, post docs, MD-PhDs) within the Strategic Program.

## The OncoCareer Board has three major goals:

1. Create a nurturing environment for both local and international early-career scientists within the UMC Utrecht.
2. Promote career and personal development opportunities within and outside the UMC Utrecht.
3. Facilitate early-career scientists to connect with peers by creating a coherent community.



## OncoCareer Board 2020

As part of the Strategic Cancer Program at the UMC Utrecht, OCB launched a survey to identify needs and obstacles in the career development of young scientists at the beginning of 2020. The survey was completed by 61 young scientists within the Strategic Program Cancer, including MD PhDs, PhDs, postdocs and university lecturers, and revealed some important findings.

The results of the research were to be discussed during a meeting with the executive board of the Strategic Cancer Program and the Dean of the faculty, Prof. Arno Hoes. This meeting was also intended to initiate a lively dialogue between the young scientists, the board and the dean to find solutions to the unmet needs and obstacles in career development. Unfortunately, this meeting could not take place due to Covid-19 and the lockdown imposed by the government.

# OncoCareer Board (OCB)

2020

## Concerns about the stagnation of ongoing research due to the corona crisis

During the Covid-19 lockdown, OCB organized virtual dialogues with young scientists. As a result of the Covid-19 measures, most of the young scientists worked and are still working from home. Through these sessions people were brought into contact with each other and supported. An inventory of the problems and needs that arose during this pandemic situation was also made and possible solutions were discussed. Many of these researchers have a temporary contract and lost several months of research time, which will have major consequences for the completion of

their projects and therefore also affect their careers. These issues have been brought to the attention of the Board of Directors and research managers of the UMC Utrecht in a joint letter with UMCU-YoungAcademy.

They also supported the national initiative of PhD candidates Netwerk Nederland, PostdocNL and De Jonge Akademie of the KNAW, who sent an urgent letter to the government on 13 July 2020: "Young scientists are stating: don't let us down".

## Joining forces with Young ScienceInTransition and the UMCU-YoungAcademy

At the end of 2020, the OCB joined forces with Young ScienceInTransition and the UMCU-YoungAcademy to identify needs and hurdles in career development and work-life balance within the UMCU. Together, they have launched a survey, which was filled out by 275 scientists and clinicians, including MD-PhDs, PhDs, PostDocs, assistant/associate/full Professors. Significant findings arose from this survey and several possibilities are currently under investigation to address these concerns.



# Patient sounding board

In the strategy we develop and in the work we do, we cannot do without the input of our patients' sounding board. We need patient involvement and participation in our research program to fully ensure the patient perspective. The Strategic Program feels very privileged to be able to consult our current three members on a regular basis and cherish their valuable input on the various domains.

We asked them to introduce themselves:



Ernest van den Bemd

## **Ernest van den Bemd**

"As a patient I have experience with cardiology, vascular surgery and oncology. The fact that I am in good health is largely due to the good and successful treatments at UMC Utrecht. When I was being treated for a stomach tumor I offered to combine my frequent visits with patient participation.

I now combine my activities for UMC Utrecht with my full-time job. I am a married father of 4, have a grandchild and live in the Zeeheldenbuurt in Utrecht. Ride all the bikes that exist and love to play volleyball.

For years I worked in international bicycle tourism (as general manager) and now I am active in the public domain around cycling: responsible for Bicycle School of the Netherlands, programs around Cycling & Health, community manager of a platform of 600 bicycle professionals and board advisor of Business Peloton Utrecht."

# Patient sounding board



Ank Louwes and Theo Koster

## Theo Koster

"I am many things to many people. An enigma to some, an open book to others. Vehement debater and detached observer. Supporter of traditions and student of innovation. Entrepreneur and storyteller. Unlikely survivor of life threatening diseases. Author of 'bad luck' in which I share life lessons of an eight-year battle with death.

I owe my complete medical recovery to the joint efforts by doctors from multiple medical disciplines, innovative therapies that specialists allowed for and our active involvement in my journey to health. Our active involvement? Yes, because the UMC Utrecht invited me to participate in various patient participation programs, ultimately leading to a position at the patient advisory board for the Strategic Program Cancer, we are also fully engaged in its logical extension: family participation."

## Ank Louwes

Ank is Theo's partner, and companion in his journey back to health. Ank has been involved in every step along the way and has specialized in family participation. If a patient can leave hospital earlier because family members and informal carers provide part of the care requirements extramurally, this leads to faster healing, higher well-being and a significant reduction in medical costs.

"I would like the system to become more flexible, patient profile oriented. Patients need to see doctors that match their profile and the personnel that spend the most time with the patients need to have the qualifications to make decisions that benefit the patients. A little bit less control and more allowance for patient's own effort, possibilities, limitations, and personal perspective on health."

# Governance

## the board 2020

The daily board of the Strategic Program Cancer consists of representatives of the themes and disciplines concerning cancer. They were responsible for the design strategy 2020-2025 & execution of our strategic program and for the (external) communication & program administration. In addition they are responsible for alignment of program content with divisions and boards of the UMC Utrecht.



Prof. dr. Nico van den Berg



[Prof. dr. Susanne Lens](#)



Dr. Erna Erdtsieck-Ernste  
**program manager**



Inge Noordijk  
**communication manager**



[Prof. dr. Carla van Gils](#)



[Prof. dr. Gerlof Valk](#)



[Prof. dr. Jürgen Kuball](#)



[Prof. dr. Elsken van der Wall](#)  
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