

# Institute for Cancer Research

ANNUAL REPORT 2024



70  
YEARS

# “Research and innovation with patient benefit in mind”

## **EDITORIAL COMMITTEE:**

Kjetil Taskén  
Harald A. Stenmark  
Peter Wiedswang  
Karen-Marie Heintz  
Kari Aalrust Berger

## **DESIGN:**

Espen Liland

## **PHOTOGRAPHY:**

Ine Eriksen, UiO  
Åsne Rambøl Hillestad, UiO  
Øystein Horgmo, UiO  
Terje Heiestad  
Jarli&Jordan, UiO  
Karin Teien Lande  
Jens Andreas Salberg  
Per Marius Didriksen  
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Li Li  
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Nicola Pietro Montaldo  
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## **FRONT PAGE:**

To mark the 70-years anniversary of  
Institute for Cancer Research in 2024,  
the cover shows scientists working in the  
institute more than 60 years ago and in 2024.  
Photo: Ørnelund, Leif Krohn/Oslo Museum

PAPER: 150/300 Profimatt  
CIRCULATION: 800

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**“the ICR sets out to maintain the excellent science and to further contribute to the grand challenges in cancer medicine”**

# Dedicated to Cancer Research

I am proud to present our Annual Report for 2024. The eleven key topics of the report encapsulate the work and output from our research organisation, the Institute of Cancer Research (ICR), and communicate the key features of what we do. As you will see, our scientific output is now back at 200 peer-reviewed papers per year, of which half have 1st or senior authors at the ICR (this after a surge during Covid and a post-Covid dip in 2023). I am also happy that the quality is increasing (by median impact factor).

Alongside outstanding research, the report also demonstrates how we excel in recruitment, training and career development, translation and innovation, dissemination and public outreach, and collaboration in Norway and abroad. Members of the ICR disseminated our science by giving more than 400 scientific and popular talks, organising some 45 meetings and events, and participating in the public debate with nearly 80 news items in 2024. ICR groups are also key partners in more than 20 clinical trials and lead more than 120 translation and innovation projects, many with industry partners.

The competence of our staff is the most valuable asset of the ICR. Our 370 employees in six research departments, 26 research groups, 29 project groups and seven core facility units represent a competence hub of required expertise that allows Oslo University Hospital to establish new strategic areas. Prominent examples are in

precision cancer medicine and cell-gene therapy, where we spearhead national initiatives and play in a European arena and, more recently, in radioligand therapy and preclinical proton therapy research. These strategic developments also create new career paths.

The ICR was established in 1954 and celebrated its 70th anniversary in 2024. It is a fully fledged cancer research organisation and has developed into a vibrant and dynamic place where great minds meet to conduct cutting-edge cancer research. I hope this development will continue in the next 70 years!

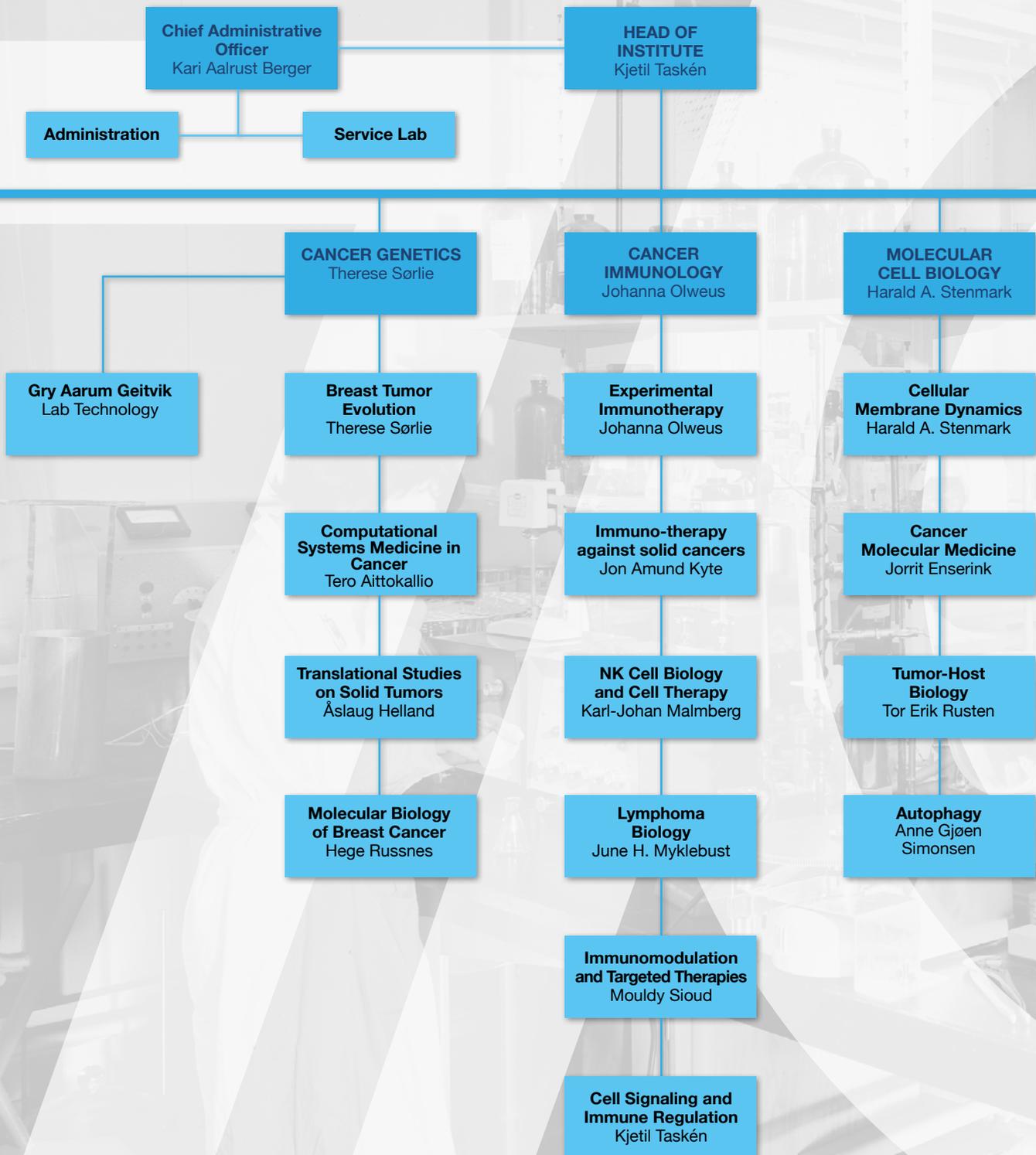
I encourage you to read the report and see the highlights of our exciting research. In line with our vision, values, and objectives, the ICR sets out to maintain excellent science and further contribute to the grand challenges in cancer medicine, continue to attract top talents and position the ICR in national and international alliances and consortia. Enjoy the reading!

March 2025



Kjetil Taskén  
Head of the ICR

# The Institute



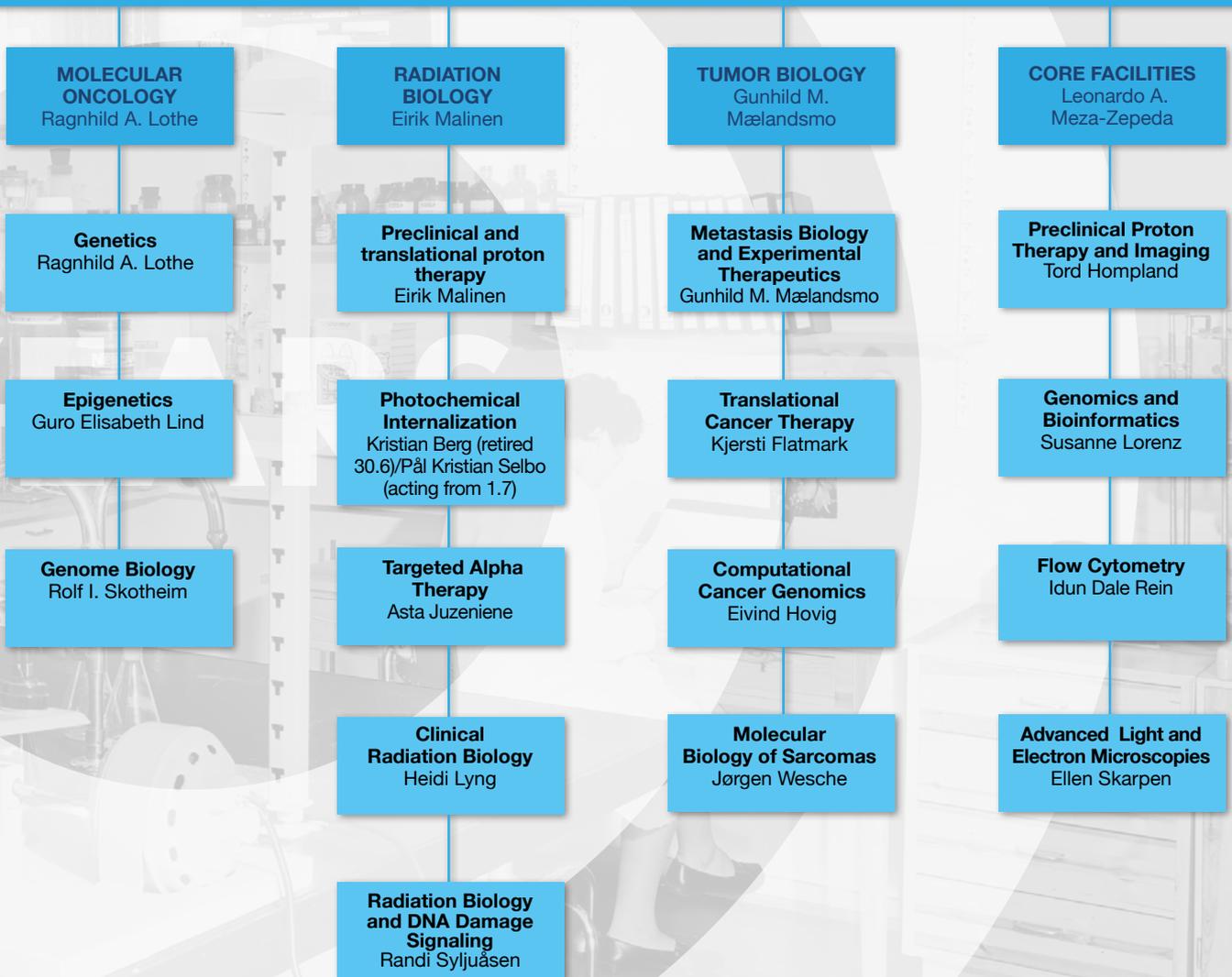
**6** research departments

**26** research groups

**7** core facilities

**29** project groups

The Institute for Cancer Research is organized in 6 research departments with 26 research groups and a total of >55 PIs, and one Department of (7) Core Facilities.



# The Institute

## Administration

**Chief Administrative Officer:**  
Kari Aalrust Berger / Employees: 10

**Administration**

**Service Lab**





*Peter Wiedswang, Ikram Mahnin (until 1.6), Yili Gan (until 18.8), Gro Live Fagereng, Helene Wold Ranum, Mona Hagen, Karen-Marie Heintz, Kari Aalrust Berger and Linda Uv Mjøen. Absent: Yong Fang Po, Martin Gullaksen Haugland and Hamayoun Karim*

The ICR administrative unit consists of ten people, and our achievements in 2024 include:

- Financial management and accounting for around 400 externally funded projects
- Project management of PRIME ROSE, support in application processes and grant writing
- Handling all HR-related tasks and leading the project group “Competence Development for Engineers”
- Health, Safety and Environment and management of technical installations in the building
- Public relations and ICR website, coordinating the ICT-support group and transference to new network solutions for the majority of the ICR staff
- Responsibility for ICR conference and meeting facilities, project managed the organizing of the Norwegian Cancer Symposium 2024
- Operating Service Lab with washing and autoclaving facility for the building
- Two new recruitments, Hamayoun Karim (from September 2024) and Martin Gullaksen Haugland (from October 2024), that we warmly welcome to the ICR and the Administration.

**“Serving to let  
our scientists  
excel at the ICR”**

# The Institute

## Scientific Advisory Board members



**Professor  
Carl-Henrik Heldin**  
Department of  
Medical Biochemistry  
and Microbiology,  
Uppsala University,  
Sweden. SAB Chair



**Professor  
Carl Figdor**  
Head, Dept of Tumor  
Immunology, Institute for  
Molecular Life Sciences,  
Radboud UMC, The  
Netherlands



**Professor  
Margaret C. Frame**  
FRSE, FmedSci, OBE,  
Professor of Cancer  
Research and Director,  
MRC Institute of  
Genetics and Molecular  
Medicine, University of  
Edinburgh, UK



**Professor  
Ruth Palmer**  
Institute of  
Biomedicine,  
University of  
Gothenburg, Sweden



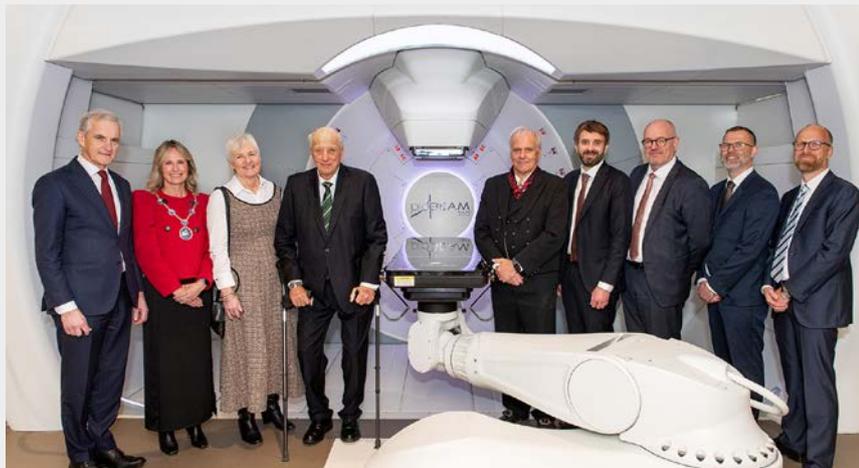
**Professor  
Karen-Lise  
Garm Spindler**  
Department of  
Experimental Clinical  
Oncology, University  
of Aarhus; Consultant  
Oncologist, Aarhus  
University Hospital,  
Denmark



**Professor Giulio  
Superti-Furga**  
Scientific Director,  
Research Center for  
Molecular Medicine  
(CeMM) of the Austrian  
Academy of Sciences,  
and Professor for  
Medical Systems  
Biology, Center for  
Physiology and  
Pharmacology Medical  
University of Vienna,  
Austria



# The Highlights



## New Radium Hospital

HM King Harald V officially opened the new clinical hospital buildings on 17 October. With new buildings for patients, a new organization on the clinical side and our walking bridge back up, it is now clear how the ICR is embedded in the operation of the Comprehensive Cancer Centre. Furthermore, the new proton therapy centre, which will treat the first patient in March 2025 (picture from gantry #1) includes a pre-clinical gantry to be operated by the ICR Dept. of Core Facilities (see page 34).



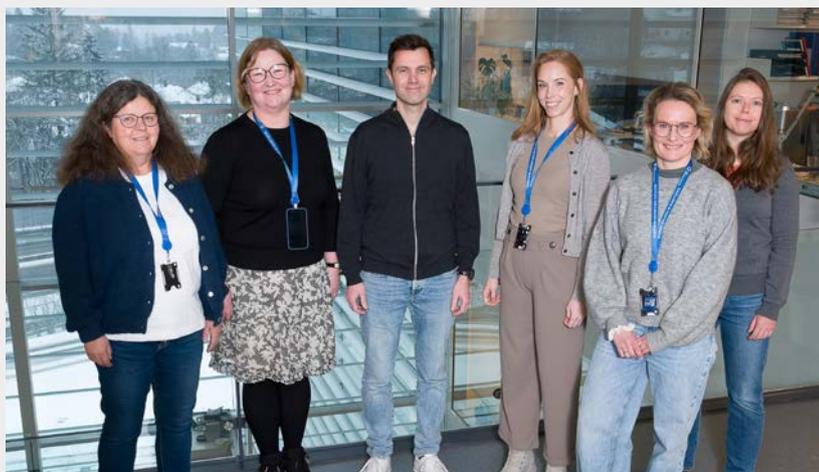
## Major Awards

ICR researchers received 11 prizes and awards in 2024, including the Porto Municipal Medal of Merit - Gold grade to Ragnhild A. Lothe, the Oslo University Hospital Excellent Researcher Award to Kjetil Taskén and the 1st prize in the 100 pitches competition at DNB NXT and ICR Researcher-of-the-Year Award to Anette Weyergang (picture).



## Major Funding

In 2024, Institute researchers were granted funding for more than 40 new projects (>450 mill NOK, see also page 38 for current funding). Highlights include a new 13.6 mEUR, EU Cancer Mission project (PREDI-LYNCH) on heritable cancer led by Mev Dominguez-Valentin at the ICR, and a 50 mNOK grant funded by RCN to ATMP Norway as a new national research infrastructure to support pre-GMP, GMP and quality control across several nodes (PIs Kalle Malmberg and Anna Pasetto).



## Career Development

A project group has developed a Competency Development Program for Engineers at the ICR which is implemented from 2025 (see page 51). *Picture: Members of the working group (from left): Merete Thune Wiiger, Karen-Marie Heintz, Thomas Fleischer, Idun Dale Rein, Karin Teien Lande and Evy Marie Thorkildsen. Ane Sofie Viset Fremstedal, Catherine Sem Wegner, Gry Aarum Geitvik and Ina Katrine Nitschke Pettersen were not present.*



## Recognition of our Young Talents

Kushtrim Kryeziu and Raquel Bartolome-Casado both received 8 mNOK grants from the Norwegian Cancer Society (picture), and Sigrid Skånland won a new 18 mNOK, EP PerMed grant, CLL-OUTCOME, including 6 partners. Among the prizes and honors were also awards to six younger scientists: Anette Weyergang, Viola Nähse, Kay Schink, Eirini Giannakopoulou, Mehrdad Rakaee and Jonas Langerud (See page 19). Ivana Spasevska gave an oral presentation at the European Congress of Immunology and Kushtrim Kryeziu was an invited speaker at the 1st joint Precision Medicine conference of the European Haematology Association and the Society for Functional Precision Medicine in Copenhagen in September.



## National and International Conference Organisation

ICR researchers were central in organizing >45 national and international scientific and popular meetings in 2024, including the Norwegian Cancer Symposium 2024 – 70th Anniversary of the ICR (page 14) and the 59th Contact Meeting of the Norwegian Bioscience Society (NBS), which took place at Storefjell, Gol in January (picture). The NBS meeting featured excellent world-leading, international and national speakers in cancer biology and immunology, precision cancer medicine, exosomes, neurobiology, phase separation, and microscopy combined with artificial intelligence. Many young researchers from the ICR also got the possibility to present their results. The NBS meeting had more than 200 attendees. ICR researchers Kirsten Sandvig and Tore Skotland were elected NBS honorary members. Also, the 11th Norwegian Flow meeting in Tromsø was organized by The Flow Cytometry Core Facility.

## Translational and clinical research

Institute researchers have numerous translational projects, play key roles in >20 ongoing clinical trials (page 46), and registered >100 ongoing innovation projects and industry collaborations. By the end of 2024, a total of >2400 patients have been included in the screening phase of IMPRESS-Norway and more than 400 in treatment cohorts. The Cancer Mission project PRIME-ROSE coordinating precision medicine trials like IMPRESS-Norway (28 partners in 19 countries, 11 open or starting DRUP-like clinical trials), has aligned more than 200 cohorts on diagnosis and biomarker definitions, merged and filled 20 cohorts between the six open trials and is now starting the first joint expansion cohort. *Picture: From PRIME-ROSE Community Advisory Board Workshop, January 2024*





# Fantastic 70th anniversary during the Norwegian Cancer Symposium 2024

The Institute for Cancer Research marked its 70th anniversary by organizing the Norwegian Cancer Symposium 2024. The event took place at The Hub in Oslo on 9-10 September and gathered altogether 430 participants over two days.

State Secretary Karl Kristian Bekeng from the Ministry of Health and Care Services opened the anniversary conference, followed by warm greetings from Ingrid Stenstadvold Ross, Secretary General of the Norwegian Cancer Society, Terje Rootwelt, CEO of the South-Eastern Norway Regional Health Authority, as well as Per Morten Sandset, Vice-Rector at the University of Oslo. Greetings also came at dinner from Bjørn Atle Bjørnbeth, CEO of OUH, Hanne Harbo, Dean of Faculty of Medicine at UiO, Sigbjørn Smeland, Head of OUH-CCC and Division of Cancer Medicine, and Jan Vincents Johannessen, CEO of the Radium Hospital Foundation.

The scientific program was kicked off with a keynote lecture by Professor Douglas Hanahan from the Ludwig Institute for Cancer Research and Swiss Federal Institute of Technology Lausanne (EPFL). He set the standard with a very interesting lecture about Hallmarks of Cancer 2024.

In addition to the opening lecture, the program included 15 invited speakers of which 11 were international, and eight selected short talks distributed over five sessions. Moreover, 118 posters were presented during two vibrant poster sessions. The program reflected the breadth of cancer research taking place at the institute, and the topics of the five sessions were:

- The tumour microenvironment, metastasis and therapy resistance
- Risk stratification, current and emerging treatment regimens
- Norwegian cancer research
- Computational and functional precision cancer medicine
- Cancer immunology and immunotherapy

Throughout the conference, there was great engagement with good questions from the audience to all speakers. There

was also plenty of opportunity for more informal discussions and interactions during the conference banquet dinner.

The Norwegian Cancer Symposium 2024 was made possible through support from Norsk Hydro's Fund for Cancer Research and the Radium Hospital Foundation.

"We are very happy with the Symposium and the 70th anniversary that featured a number of great talks as well as very vibrant poster sessions. We also heard a number of speeches that praised the achievements we have made in the past 70 years and continue to make. I am very proud of what the Institute for Cancer Research has delivered and the excellence we stand out with at present. Expectations are high also for the future, and I am sure we will continue to deliver also in the coming years", Kjetil Taskén, Head of Institute for Cancer Research.

## New concepts cancer prevention, detection, diagnosis and treatment

Research-based developments starting

**1950s-1960s**  
Advancements in Radiation Therapy

**1960s-1970s**  
Chemotherapy Innovations

**1970s-1980s**  
Discovery of Cancer-related Genes

**1980s**  
Bone Marrow Transplantation Advances

**1990s**  
Understanding Cancer Metastasis

# 70 YEARS



Professor Douglas Hanahan



State Secretary Karl Kristian Bekeng

**2000s**  
**Personalized  
 Medicine and  
 Biomarkers**

**2000s**  
**Cancer bio-  
 informatics  
 and systems  
 biomedicine**

**2010s**  
**Development  
 of Immuno-  
 therapy**

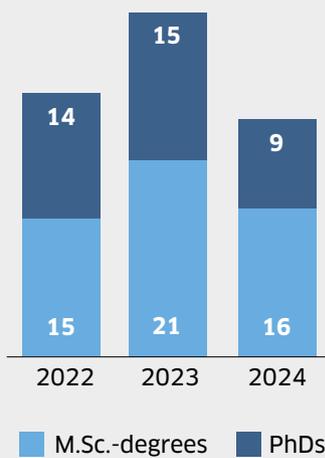
**2010s**  
**Precision  
 Oncology  
 and Molecular  
 Diagnostics**

**2010s**  
**Development  
 of Immuno-  
 and Cell-  
 therapy**

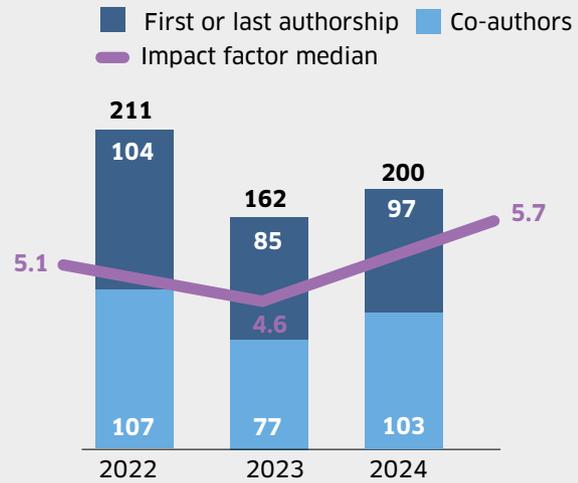
**2020s**  
**Artificial  
 Intelligence  
 and Cancer  
 Research**

# The Achievements

## Completed PhDs and M.Sc.-degrees



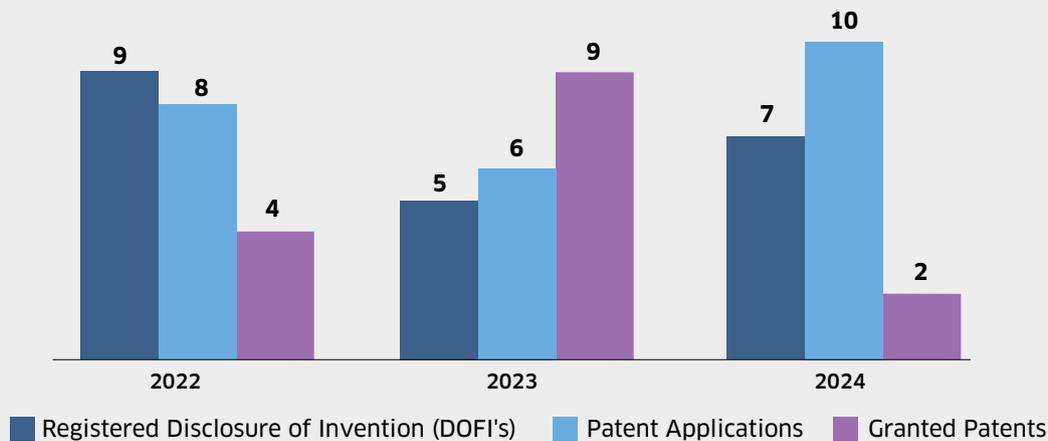
## Articles published



### IMPACT FACTOR

	2022	2023	2024
Median	5.1	4.6	5.7
Mean	8.4	7.4	10.1

## DOFIs and Patent Applications

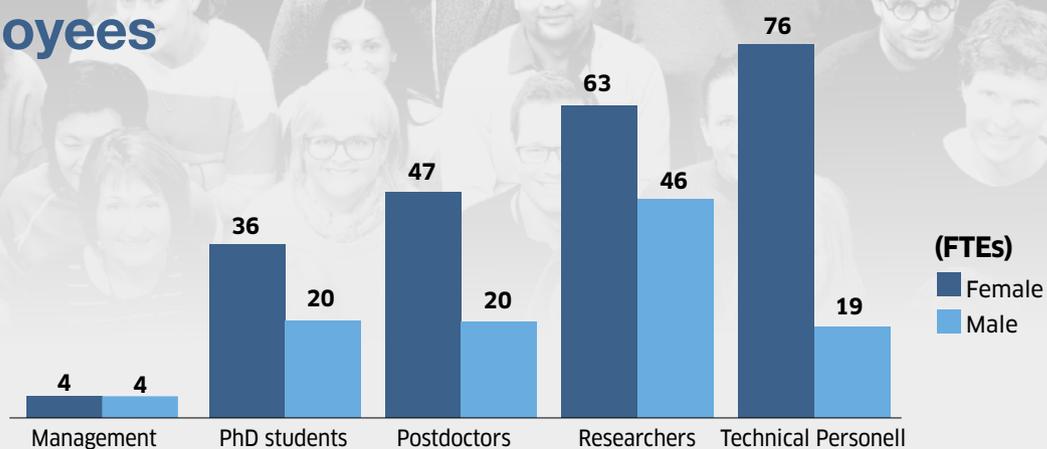


# Selected publications from Institute for Cancer Research in 2024 (first and last author from ICR)

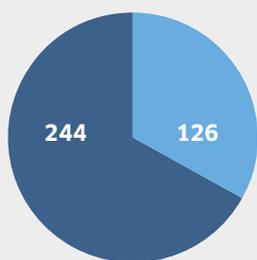
- Andresen NK**, Rössevoid AH, Quaghebeur C, Gilje B, Boge B, Gombos A, Falk RS, Mathiesen RR, Julsrud L, Garred Ø, Russnes HG, Lereim RR, Chauhan SK, Lingjærde OC, Dunn C, Naume B, **Kyte JA** (2024)  
**Ipilimumab and nivolumab combined with anthracycline-based chemotherapy in metastatic hormone receptor-positive breast cancer: a randomized phase 2b trial**  
*J Immunother Cancer*, 12 (1).  
*Main findings:* Clinical trial showing that immune checkpoint inhibitors administered together with chemotherapy in metastatic hormone receptor positive breast cancer increased toxicity without improving efficacy, whereas sequential administration of checkpoint inhibitors and chemotherapy was tolerable and induced clinical responses.
- Bratvnyk A**, Ankill J, Helland Å, **Fleischer T** (2024)  
**Multi-omics analysis reveals epigenetically regulated processes and patient classification in lung adenocarcinoma**  
*Int J Cancer*, 155 (2), 282-297.  
*Main findings:* Genome-wide expression-methylation analysis of 453 lung carcinoma patients indicated that the expression of genes involved in hormone response and lipid metabolism in these patients are epigenetically regulated through DNA methylation and enhancer-promoter interactions.
- Egeland EV**, Seip K, Skourt E, Øy GF, Pettersen SJ, Pandya AD, Dahle MA, Haugen MH, Kristian A, Nakken S, Engebraaten O, Mælandsmo GM, **Prasmickaite L** (2024)  
**The SRC-family serves as a therapeutic target in triple negative breast cancer with acquired resistance to chemotherapy**  
*Br J Cancer*, 131 (10), 1656-1667.  
*Main findings:* RNA sequencing and protein array profiling of patient-derived xenografts of paclitaxel sensitive and -resistant tumours revealed upregulation of SRC family protein kinases in a subset of chemoresistant tumours.
- Haakensen VD**, Öljert ÅK, Thunold S, Farooqi S, Nowak AK, Chin WL, Grundberg O, Szejniuk WM, Cedres S, Sørensen JB, Dalen TS, Lund-Iversen M, Bjaanaes M, **Helland Å** (2024)  
**UV1 telomerase vaccine with ipilimumab and nivolumab as second line treatment for pleural mesothelioma - A phase II randomised trial**  
*Eur J Cancer*, 202, 113973.  
*Main findings:* Phase II randomised clinical trial suggesting that the UV1 telomerase vaccine may have beneficial effects as second line treatment for pleural mesothelioma in combination with immune checkpoint inhibition.
- Langerud J**, Eilertsen IA, Moosavi SH, Klokkerud SMK, Reims HM, Backe IF, Hektoen M, Sjo OH, Jeanmougin M, Tejpar S, Nesbakken A, Lothe RA, **Sveen A** (2024)  
**Multiregional transcriptomics identifies congruent consensus subtypes with prognostic value beyond tumor heterogeneity of colorectal cancer**  
*Nat Commun*, 15 (1), 4342.  
*Main findings:* Multiregional transcriptomics of 1093 colorectal tumour samples showed frequent intra-tumour heterogeneity, which complicates the clinical value of transcriptomic classifications.
- Lund-Andersen C**, Torgunrud A, Kanduri C, Dagenborg VJ, Frøysnes IS, Larsen MM, Davidson B, Larsen SG, **Flatmark K** (2024)  
**Novel drug resistance mechanisms and drug targets in BRAF-mutated peritoneal metastasis from colorectal cancer**  
*J Transl Med*, 22 (1), 646.  
*Main findings:* Targeted DNA sequencing of 230 tumour samples from patients with peritoneal metastatic colorectal cancer showed frequent BRAF mutations, which correlated with poor prognosis.
- Migliano SM**, Schultz SW, Wenzel EM, Takáts S, Liu D, Mørk S, Tan KW, Rusten TE, Raiborg C, **Stenmark H** (2024)  
**Removal of hypersignaling endosomes by simophagy**  
*Autophagy*, 20(4):769-791.  
*Main findings:* A new type of selective autophagy was identified, simophagy, which entails degradation of hypersignaling endosomes.
- Netskar H**, Pfefferle A, Goodridge JP, Sohlberg E, Dufva O, Teichmann SA, Brownlie D, Michaëlsson J, Marquardt N, Clancy T, Horowitz A, **Malmberg KJ** (2024)  
**Pan-cancer profiling of tumor-infiltrating natural killer cells through transcriptional reference mapping**  
*Nat Immunol*, 25 (8), 1445-1459.  
*Main findings:* Single-cell transcriptomics of healthy and tumour-infiltrating natural killer (NK) cells identified an NK cell population susceptible to tumour microenvironment-induced immunosuppression and another population resistant to such immunosuppression.
- Nunes L**, Stenersen JM, Kryeziu K, Sjöblom T, Glimelius B, Lothe RA, **Sveen A** (2024)  
**Co-occurring mutations identify prognostic subgroups of microsatellite stable colorectal cancer**  
*Mol Cancer*, 23 (1), 264.  
*Main findings:* Whole-genome sequencing of 819 stage I-IV microsatellite stable colorectal cancers revealed co-occurring mutations, suggesting that co-mutations can improve the prognostic stratification compared to single mutations alone.
- Pankiv S**, Dahl AK, Aas A, Andersen RL, Brech A, Holland P, Singh S, Bindsbøll C, **Simonsen A** (2024)  
**BEACH domain proteins function as cargo-sorting adaptors in secretory and endocytic pathways**  
*J Cell Biol*, 223 (12).  
*Main findings:* Identification of BEACH domain proteins as novel cargo-sorting adaptors in endocytic and exocytic membrane traffic through recognition of the cytosolic tails of transmembrane cargo proteins.
- Skigen VE**, Salberg UB, Hompland T, Fjeldbo CS, Helgeland H, Frikstad KM, Ragnum HB, Vlatkovic L, Hole KH, Seierstad T, **Lyng H** (2024)  
**Spatial analysis of microRNA regulation at defined tumor hypoxia levels reveals biological traits of aggressive prostate cancer**  
*J Pathol*, 264 (3), 270-283.  
*Main findings:* Correlation analyses between hypoxia levels and miRNA expression in prostate cancer biopsies revealed that, in aggressive, hypoxic tumours, cancer cells exhibit different proliferative gene expression programs regulated by miRNAs.
- Thunold S**, Hernes E, Farooqi S, Öljert ÅK, Francis RJ, Nowak AK, Szejniuk WM, Nielsen SS, Cedres S, Perdigo MS, Sørensen JB, Meltzer C, Mikalsen LTG, Helland Å, Malinen E, **Haakensen VD** (2024)  
**Outcome prediction based on [18F]FDG PET/CT in patients with pleural mesothelioma treated with ipilimumab and nivolumab +/- UV1 telomerase vaccine**  
*Eur J Nucl Med Mol Imaging*, 52 (2), 693-707.  
*Main findings:* Tumour volume measurements with PET and CT in patients with pleural mesothelioma provided evidence that metabolic tumour volume provides prognostic value in this cancer.
- Wenzel EM**, Pedersen NM, Elfmark LA, Wang L, Kjos I, Stang E, Malerød L, Brech A, Stenmark H, **Raiborg C** (2024)  
**Intercellular transfer of cancer cell invasiveness via endosome-mediated protease shedding**  
*Nat Commun*, 15 (1), 1277.  
*Main findings:* Invasive breast cancer cells were shown to convert non-invasive cells into an invasive phenotype by transferring the soluble form of a matrix metalloprotease by a mechanism involving its proteolytic cleavage in acidic endosomes.

# The People

## Employees

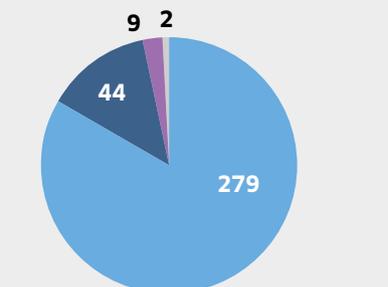


**Employees by Gender**  
(total 370)



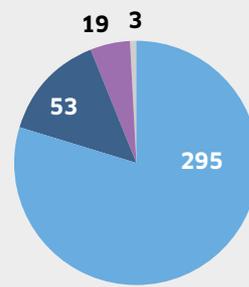
Female Male

**FTEs by Employer**  
(total 333)



ICR UiO OUH\* Other  
\*other than ICR

**Employed by**  
(total 370)



ICR UiO OUH\* Other  
\*other than ICR

## Prizes and Honors 2024

- Oslo University Hospital Excellent Article Prize to Viola Nähse, Kay Schink and Harald Stenmark for work in Nature Comms. fall 2023 (June 2024)
- Porto Municipal Medal of Merit - Gold grade to Ragnhild A. Lothe
- Oslo University Hospital Excellent Researcher Award to Kjetil Taskén
- Highly Cited Researcher status (Clarivate) to Tero Aittokallio
- Institute for Cancer Research "Researcher of the Year 2024" award to Anette Weyergang
- K.G.Jebsen Centers' best publication prize to Eirini Giannakopoulou and Johanna Olweus for work in Nature Cancer 2023.
- Onkologisk Forum's Career Fellowship awarded to Mehrdad Rakaee
- Acta Oncologica Award by the Swedish Society of Oncology to Kjetil Taskén
- Oslo University Hospital Excellent Article Prize to Jonas Langerud and Anita Sveen for work in Nature Comms. spring 2024 (Nov 2024).
- Institute for Cancer Research "Employee of the Year 2024" to Kari Aalrust Berger
- Anette Weyergang won the 100 pitches competition at DNB NXT

## Completed PhDs 2024



### Jørgen Ankill

*Cancer Genetics*  
Functional effects of epigenetic alterations: towards targeted epigenetic treatment of breast cancer



### Dennis Clement

*Cancer Immunology*  
Molecular regulation of Natural Killer Cell function - role of Ca<sup>2+</sup> signaling from the secretory lysosome



### Liv Anker Elfmark

*Molecular Cell Biology*  
Protrudin in membrane contact sites regulates phagocytosis, apoptosis and exocytosis



### Julian Hamfjord

*Cancer Genetics*  
Colorectal cancer - survival trends and prognostic role of circulating cell-free DNA



### Susanne Kidd

*Molecular Oncology*  
Prognostic classification of localized prostate cancer - taking intrapatient heterogeneity into account



### Andreas Hagen Røsevoid

*Cancer Immunology*  
Immunotherapy and immunological biomarkers in breast cancer



### Vilde Eide Skingen

*Radiation Biology*  
Development and application

of a histopathology platform for spatial investigations of hypoxia in prostate cancer



### Stina Stålberg

*Cancer Genetics*  
Pancreatic and periampullary carcinoma.

Proteomics and metabolite profiles



### Qindong Zhang

*Cancer Immunology*  
Development of Macrophage-Targeting Strategies for Cancer

Immunotherapy

# The People

## International Staff Distribution

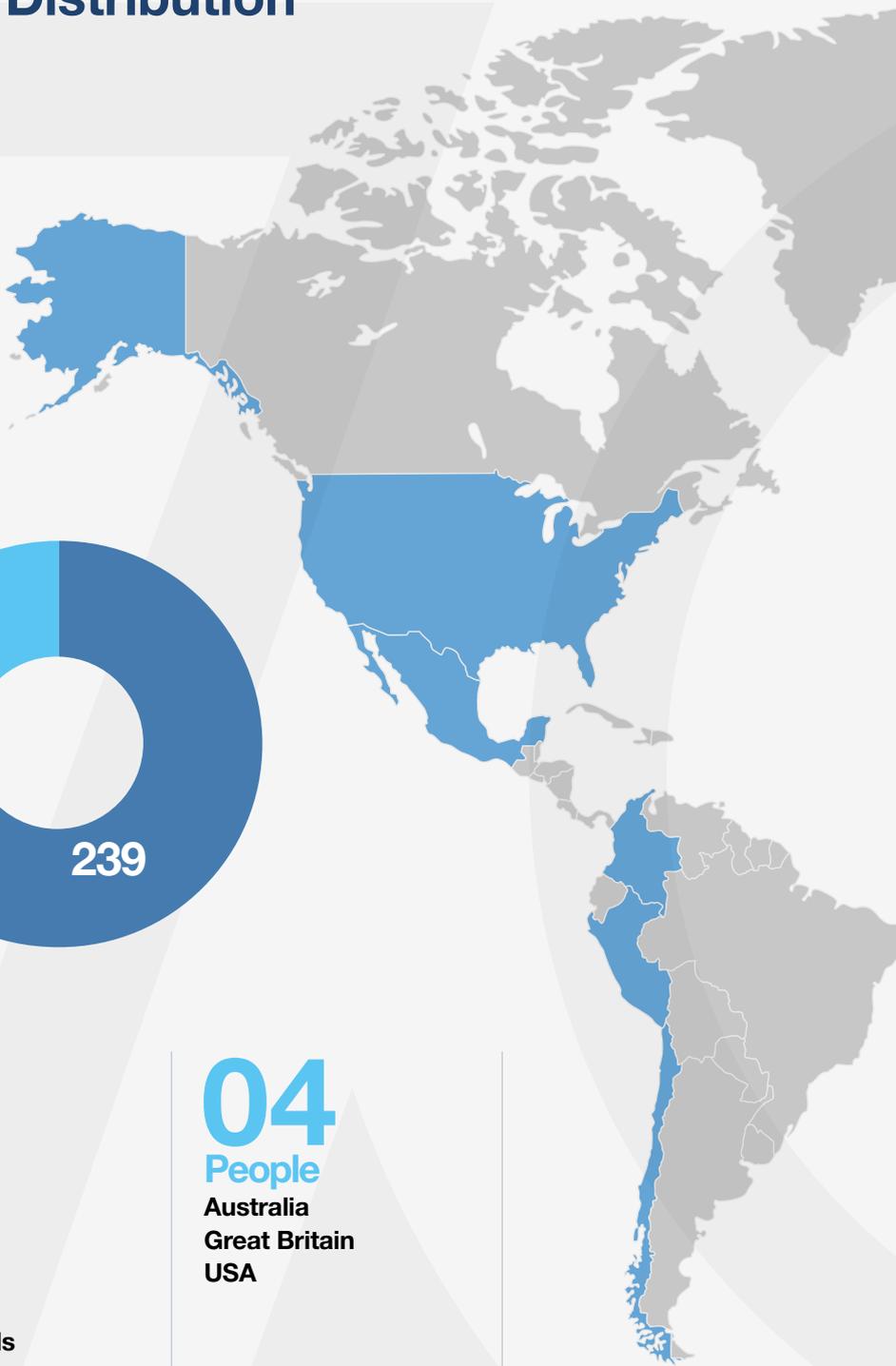
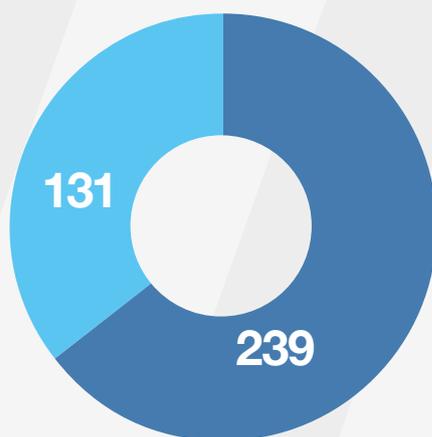
# 131

people in total  
from outside  
Norway

# 32

nations are  
represented

■ Norwegian: 239 (65%)\*  
■ International: 131 (35%)  
\*Including naturalised foreigners



# 01

Countries  
represented  
by one person

Afghanistan  
Colombia  
Czech Republic  
Denmark  
Morocco  
Peru  
Poland  
Russia  
Serbia  
Slovak Republic  
South Africa

# 02

People

Austria  
Croatia  
Hungary  
Iran  
Lebanon  
Netherlands  
Portugal

# 03

People

Finland  
Nepal

# 04

People

Australia  
Great Britain  
USA

# 05

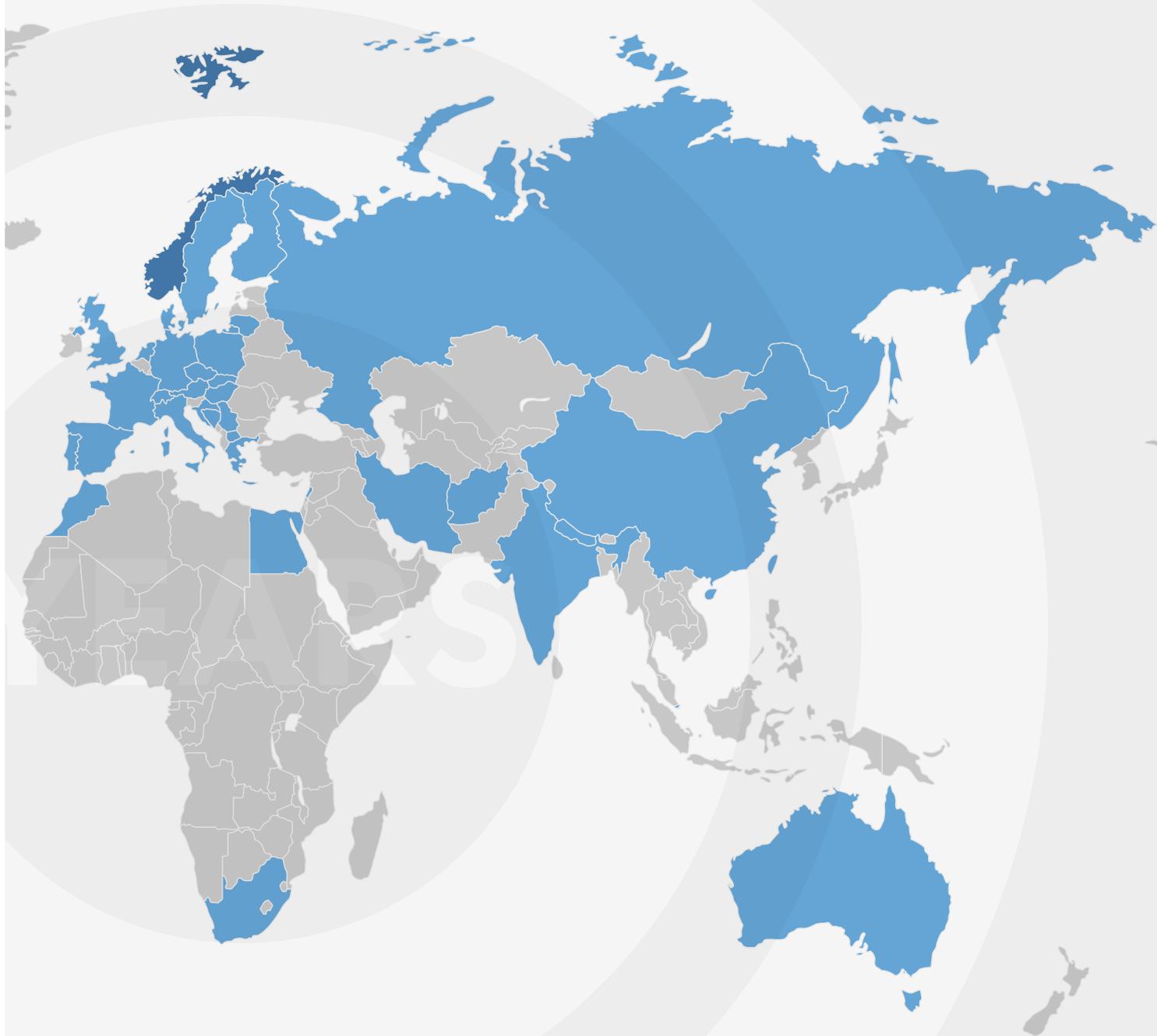
People

France  
Lithuania

# 06

People

Greece

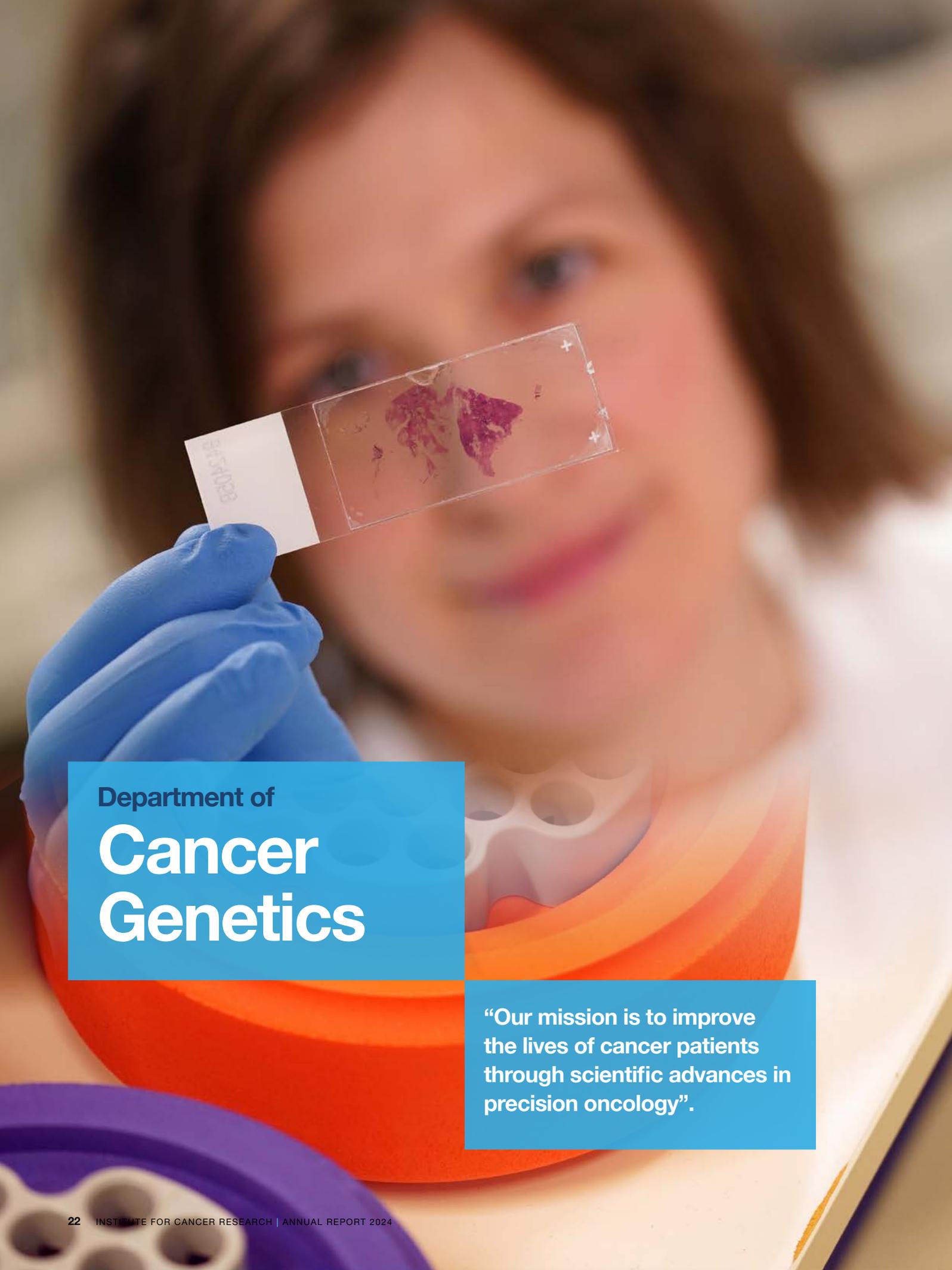


**10**  
People  
India  
Sweden

**11**  
People  
China

**12**  
People  
Italy  
Spain

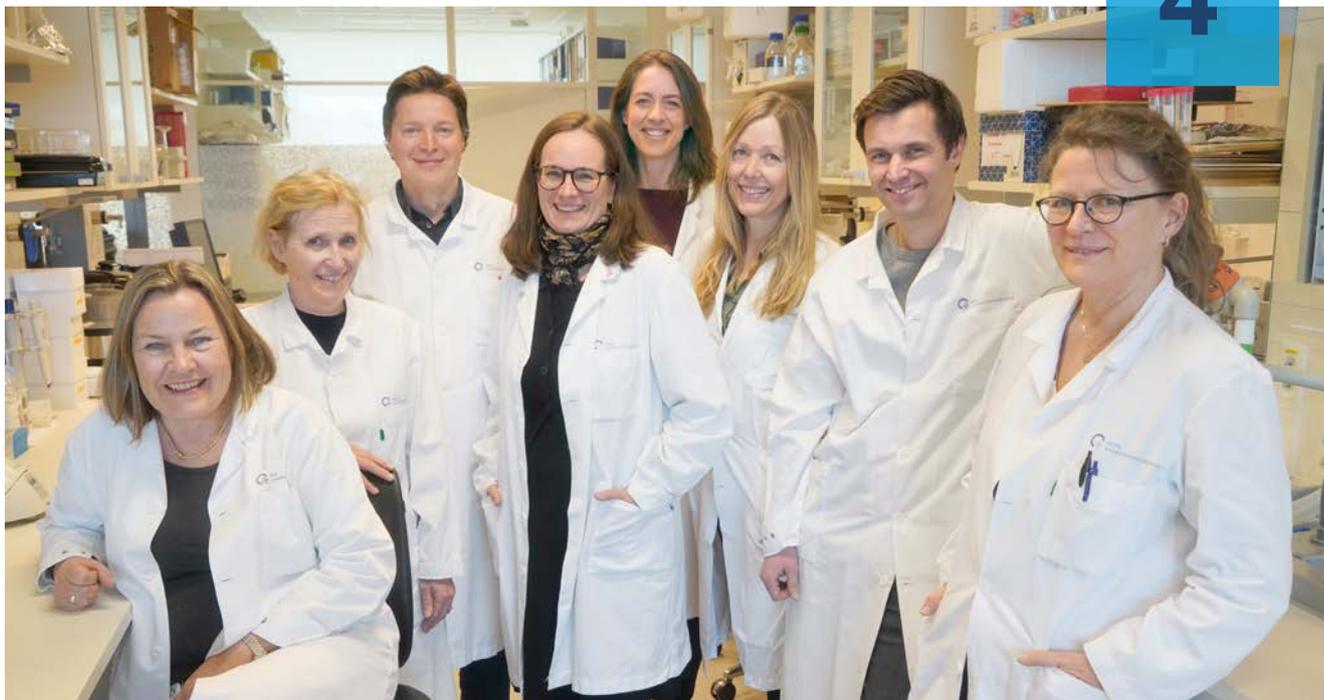
**17**  
People  
Germany



Department of

# Cancer Genetics

“Our mission is to improve the lives of cancer patients through scientific advances in precision oncology”.



Gry Aarum Geitvik, Elin Kure (retired 31.5), Tero Aittokallio, Hege E. G. Russnes, Vilde Drageset Haakensen, Therese Sørli, Thomas Fleischer, Åslaug Helland

**Head of Department:** Therese Sørli / **Employees:** 56

**Breast Tumor Evolution**  
Therese Sørli

**Computational Systems Medicine in Cancer**  
Tero Aittokallio

**Lab Technology**  
Gry Aarum Geitvik

**Translational Studies on Solid Tumors**  
Åslaug Helland

**Molecular Biology of Breast Cancer**  
Hege Russnes

**Epigenomics of Breast Cancer**  
Thomas Fleischer

**Therapy Prediction in Lung Cancer**  
Vilde Drageset Haakensen

**Translational Research in Pancreatic and Colorectal Cancers**  
Elin Kure

- We received major grants from Norwegian Cancer Society, South-Eastern Norway and Northern Norway Regional Health Authorities (to Helland, Rakaee, Sahu, Lindemann/Sørli) and KlinBe-Forsk (Helland)
- Two projects received EU funding; from Marie Skłodowska-Curie Actions and EP PerMed (to Aittokallio)
- Scientists from the department are authors on 56 scientific articles published in 2024
- Onkologisk Forum's Career Fellowship for 2024 was awarded to Mehrdad Rakaee
- 3 PhD and 3 master's degrees awarded
- Aittokallio recognized as Highly Cited Researcher in Clarivate's list for 2024
- By end of 2024, a total of >2400 patients have been included in IMPRESS-Norway, 950 during 2024, all biobanked at Dept of Cancer Genetics

A male scientist with glasses and a white lab coat is looking at a computer monitor in a laboratory. The background is filled with lab equipment and shelves. A blue semi-transparent box is overlaid on the image, containing text. The bottom of the image shows a close-up of a microscope with glowing green and blue lights.

Department of

# Cancer Immunology

“Our goal is to improve cancer diagnostics and therapy through cutting edge research on tumor immunology and lymphocyte biology”



June H. Myklebust, Karl-Johan Malmberg, Kjetil Taskén, Johanna Olweus, Jon Amund Kyte, Mouldy Sioud, Sigrid Skånland

### Head of Department: Johanna Olweus / Employees: 74

**Experimental Immunotherapy**  
Johanna Olweus

**Immuno-therapy against solid cancers**  
Jon Amund Kyte

**NK Cell Biology and Cell Therapy**  
Karl-Johan Malmberg

**Lymphoma Biology**  
June H. Myklebust

**Immuno-modulation and Targeted Therapies**  
Mouldy Sioud

**Cell Signaling and Immune Regulation**  
Kjetil Taskén

**Functional Precision Medicine for Haematological Cancers**  
Sigrid Skånland

- Kyte group completed breast cancer immunotherapy trial ICON. Results published in *J Immunother Cancer*, *NPJ Breast Cancer* and *Mol Oncol*
- Tasken received the Excellent Researcher Award, Oslo University Hospital and the Acta Oncologica Award by the Swedish Society of Oncology
- Malmberg group reported transcriptional NK-cell reference map (*Nature Immunology*), strategies to improved T/NK-cell persistence (Cell Stem Cell) and reviewed this topic (*Nature Reviews Immunology*)
- Myklebust group reported genetic alterations associated with outcome in lymphoma in *Blood Cancer Journal* and *Blood Cancer Discovery*
- Olweus group first in Nordics to be partner on CRUK/NIH Cancer-Grand-Challenge grant (25m\$, *MATCHMAKERS*), including Nobel Prize winner Baker (Chemistry, 2024)
- Major grants: Open Call Norwegian Cancer Society (Sioud, Tasken) and Helse Sør-Øst (Tasken). Klinbeforsk (Malmberg, Kyte). EP PerMed (Skånland coordinator).
- German Federal Ministry of Science appointed Olweus member of the International Scientific Committee of DKFZ, 2024-.
- Carole Beck (Kyte Group) collected Nordic Early Stage Professional Award and the Poster Award at ISCT Europe 2024



Department of

# Molecular Cell Biology

“Uncovering  
the cellular  
basis of cancer  
development”



**Project Leaders:** Alicia Llorente, Marina Vietri, Camilla Raiborg, Kaisa Haglund, Andreas Brech, Tore-Geir Iversen, Antoni Wiedlocha. **Absent:** Alf Håkon Lystad, Maja Radulovic, Maja Radulovic

**Group Leaders:** Anne Simonsen, Harald Stenmark, Jorrit Enserink, Tor Erik Rusten

**Head of Department: Harald A. Stenmark / Employees: 76**

**Cellular Membrane Dynamics**  
Harald A. Stenmark

**Unit of Cellular Electron Microscopy** Andreas Brech  
**Cytokinesis in Development and Carcinogenesis** Kaisa Haglund  
**Nanoparticles in Biomedicine: In Vitro Studies** Tore-Geir Iversen  
**Exosomes and Prostate Cancer** Alicia Martinez Llorente  
**Autophagy and Related Pathways** Alf Håkon Lystad  
**Mechanisms and importance of lysosome repair** Maja Radulovic  
**Protein Dynamics in Tumor Suppressor Pathways** Camilla Raiborg  
**Membrane Dynamics in Tumorigenesis** Marina Vietri  
**Protein Internalisation and Signaling** Antoni Wiedlocha

**Cancer Molecular Medicine**  
Jorrit Enserink

- MCB was led by Anne Simonsen during the second half of 2024 when Harald Stenmark was on sabbatical at University of California at Berkeley.
- MCB scientists published 25 papers in 2024, 13 of these as first or last authors. The mean impact factor was 17.9 and the median impact factor was 9.4.

**Tumor-Host Biology**  
Tor Erik Rusten

- MCB scientists were first/last authors of papers published in leading journals such as *Nature Cell Biology*, *Nature Reviews Molecular Cell Biology*, *Nature Communications*, *PNAS*, *Cell Research*, *Journal of Cell Biology*, *Journal of Extracellular Vesicles*, and *Autophagy*.
- Anne Simonsen was interviewed in the journal *Cell*.
- Liv Anker Elfmark, supervised by Camilla Raiborg, successfully defended her PhD in November 2024.
- Audun Kvalvaag received a Research Grant from the Cancer Society.
- Alf Håkon Lystad, Viola Nähse and Jorrit Enserink received Open Project Grants from Helse Sør-Øst.

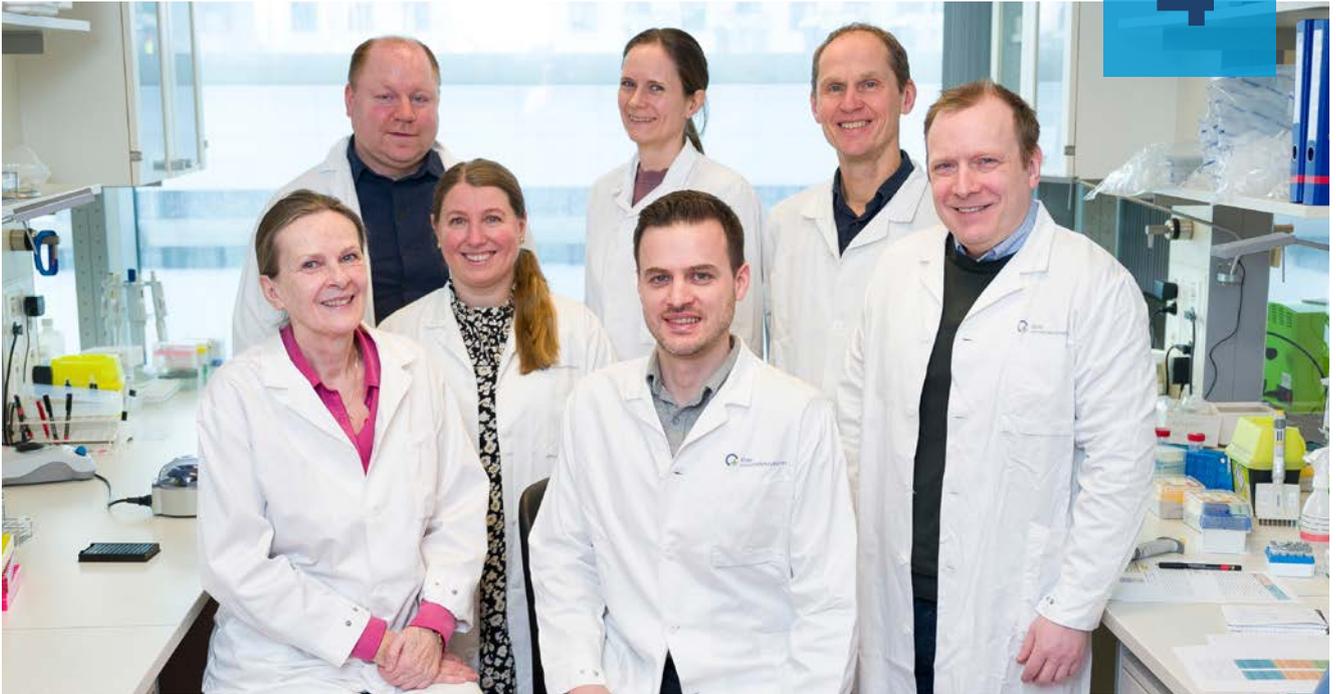
**Autophagy**  
Anne Simonsen



Department of

# Molecular Oncology

“Biological  
discoveries  
for improved  
precision  
cancer medicine”



Ragnhild A. Lothe, Edward Leithe, Guro E. Lind, Anita Sveen, Kushtrim Kryeziu, Rolf I. Skotheim, Bjarne Johannessen

## HEAD OF DEPARTMENT: Ragnhild A. Lothe / Employees: 37

### Genetics Ragnhild A. Lothe

#### Functional Oncology

Kushtrim Kryeziu

#### Cell Signalling

Edward Leithe

#### Computational Oncology

Anita Sveen

### Epigenetics Guro E. Lind

### Genome Biology Rolf I. Skotheim

#### Cancer Informatics

Bjarne Johannessen

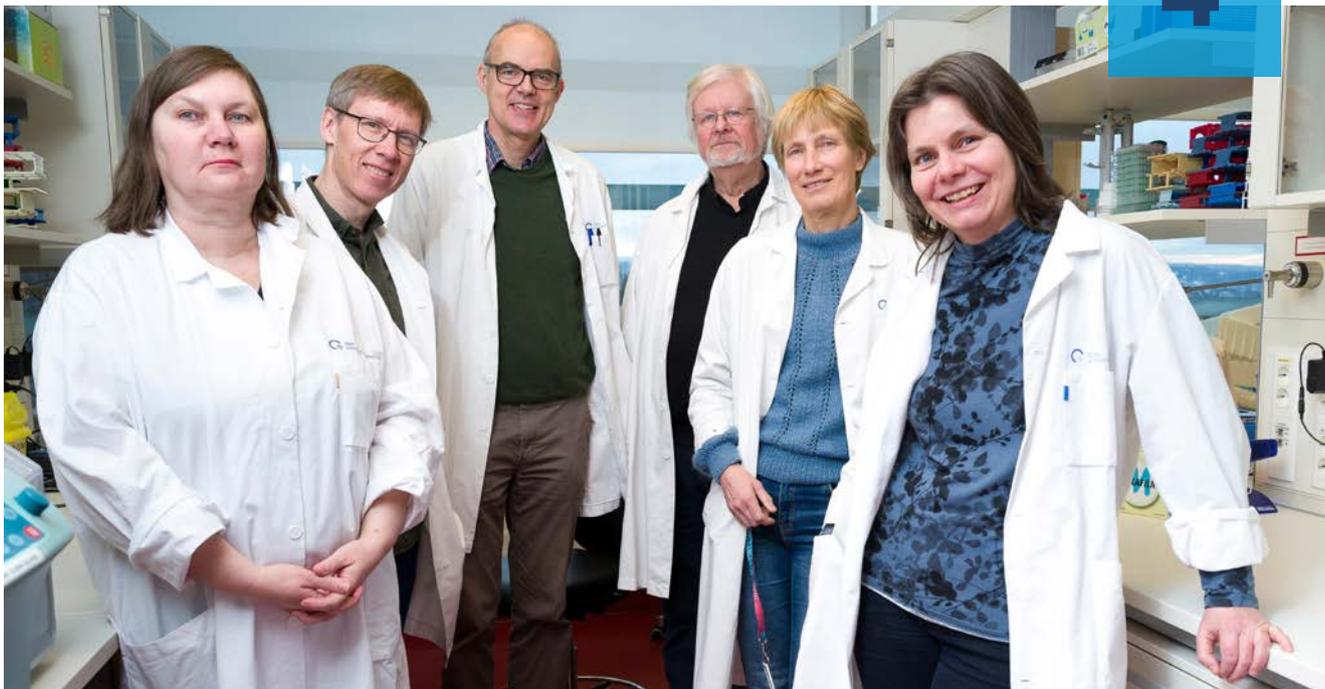
- We published computational oncology studies in Nat Commun, JCI Insight and Mol Cancer, co-authored studies in Nature, NEJM and Eur Urol, and reviewed prostate cancer heterogeneity for BBA Rev on Cancer.
- Anita Sveen's project group was awarded the OUS - excellent article prize for work on tumor heterogeneity in colorectal cancer.
- Ragnhild A. Lothe received the Porto Municipal Medal of Merit - Gold grade for her long-term contribution to scientific institutions in Porto.
- Two ongoing innovation projects reached their milestones for 2024, received support from three funding bodies, and a European patent was granted.
- Two young talents, Kushtrim Kryeziu and Raquel Bartolome-Casado received open call grants from the Norwegian Cancer Society.
- Four students successfully defended their academic degrees (1 PhD and 3 MSc).
- Invited speakers at 24 meetings/conferences, including the 39th Annual Meeting of the European Assoc. of Urology (Paris, FR); the European Hematology Assoc. and Society for Functional Precision Medicine (Copenhagen, DEN); and EUDIP2024 - European Digital PCR symposium (Ghent, BE).
- Lothe was a scientific committee member and co-organizer of "Current precision cancer medicine and emerging opportunities" at IPATIMUP/i3S in Porto, Portugal.



Department of

# Radiation Biology

**“Our vision is to understand responses to ionizing and non-ionizing radiation on the molecular, cellular, and physiological levels, and utilize this knowledge to improve cancer outcomes with new biomarkers, therapies, and technologies.”**



Asta Juzeniene, Eirik Malinen, Pål Kristian Selbo, Kristian Berg, Heidi Lyng, Randi Syljuåsen.  
Absent: Theodossis A. Theodossiou, Beata Grallert, Anette Weyergang

### Head of Department: Eirik Malinen / Employees: 44

<b>Preclinical and translational proton therapy</b> Eirik Malinen  <b>Protonics</b> Theodossis A. Theodossiou  <b>Recombinant Light Activated Therapeutics</b> Anette Weyergang	<b>Photochemical Internalization</b> Kristian Berg (retired 30.6) Pål Kristian Selbo (acting from 1.7)  <b>Light-Controlled Delivery of Cancer Immunotherapeutics</b>	<b>Targeted Alpha Therapy</b> Asta Juzeniene	<b>Clinical Radiation Biology</b> Heidi Lyng	<b>Radiation Biology and DNA Damage Signaling</b> Randi Syljuåsen  <b>Regulation of Translation in Cell Cycle and Stress</b> Beata Grallert
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- Pål Kristian Selbo was appointed group leader for the PCI group
- Anette Weyergang was awarded *Researcher of the year 2024* by ICR, OUS, and won the *100 pitches* competition at DNB NXT
- Kristian Berg presented the IUPB Finsen Medal keynote prize lecture at the 18th International Congress on Photobiology, Perth, Australia
- Grants from South-Eastern Norway Regional Health Authority for a PhD (Syljuåsen) and an open project (Malinen)
- Grants to proton therapy: (1) Establishing a new national standard of care for soft tissue sarcoma (Klinbeforsk; Malinen is partner) and (2) Planning a national proton therapy research infrastructure (Research Council of Norway; Malinen is PI)
- Start-up of the interventional RADPAINT-3 trial testing a novel radiotherapy delivery technique in patients with head and neck cancer with funding from South-Eastern Norway Regional Health Authority (partner lab: Malinen, Lyng).
- The EIC Pathfinder open project NuCapCure, with the Department as partner, kicked off in 2024 (Theodossiou)
- Organized the NIRO annual meeting in radiotherapy research for the south-eastern Norway region (Lyng, Syljuåsen, Malinen) and co-organized the 59th Contact Meeting of the Norwegian Bioscience Society, Storefjell, Norway (Selbo)



Department of

# Tumor Biology

“Preclinical and  
clinical efforts  
towards precision  
oncology”



*Eivind Hovig, Karianne Giller Fleten, Nikolai Engedal, Jørgen Wesche, Mads H. Haugen, Alfonso Urbanucci, Gunhild M. Mælandsmo, Lina Prasmickaite, Ellen M. Haugsten, Mev Dominguez-Valentin, Kjersti Flatmark. Absent: Kristin A. Taskén, Leonardo A. Meza-Zepeda*

## Head of Department Gunhild M. Mælandsmo / Employees: 56

<b>Metastasis Biology and Experimental Therapeutics</b> Gunhild M. Mælandsmo	<b>Translational Cancer Therapy</b> Kjersti Flatmark	<b>Computational Cancer Genomics</b> Eivind Hovig	<b>Molecular Biology of Sarcomas</b> Jørgen Wesche
<b>Molecular Precision Medicine in Breast Cancer</b> Mads H. Haugen	<b>Experimental Treatment of Peritoneal Metastasis</b> Karianne Giller Fleten	<b>Inherited and Familial Cancer</b> Mev Dominguez-Valentin	<b>Cancer Cell Migration, Invasion and Metastasis</b> Ellen M. Haugsten
<b>Tumor-Stroma Interactions in Metastasis and Therapy</b> Lina Prasmickaite		<b>Autophagy in Cancer</b> Nikolai Engedal	<b>Translational Genomics</b> Leonardo A. Meza-Zepeda
<b>Urological Molecular Biology</b> Kristin A. Taskén		<b>Genomic Regulation for Precision Cancer Medicine</b> Alfonso Urbanucci	

- Prestigious grant to Mev Dominguez-Valentin on heritable cancer from the EU Cancer Mission program. The project “Validated non-invasive liquid biopsy tests for cancer PREDiction in LYNCH Syndrome”, with 28 partners all over Europe, was granted with 13,6 mill EUR.
- Three group leaders / project leaders secured major funding from the Cancer Society or the Regional Health Authority for South-Eastern Norway
  - Tumor-secreted factors in formation of the premetastatic niche (to Haugsten)
  - A novel signalling mechanism promoting cancer in the bone microenvironment (to Wesche)
  - Molecular examinations of longitudinal samples from a neoadjuvant clinical study in breast cancer (to Engebråten)
- KLINBEFORSK grant for research on proton therapy to Boye on the project “Proton therapy in sarcoma: establishing a new national standard of care”
- Startup of a clinical trial (PERELI), investigating the combination of FGFR inhibitors and immunotherapy in liposarcoma (PI: Boye).
- EU funding to Flatmark for one project on nanomedicine in colorectal cancer (under the program ERA4Health Partnership NANOTECMEC) and to Hovig for a project aiming to develop national cancer data nodes for research (under the EU Cancer Mission program).
- 50 publications in peer review journals of which 35% as first or last author



Department of

# Core Facilities

“Providing  
cutting-edge  
technology and  
competence to  
excel research”



Tord Hompland, Susanne Lorenz, Idun Dale Rein, Ellen Skarpen, Leonardo A. Meza-Zepeda.

**Head of Department:** Leonardo A. Meza-Zepeda / **Employees:** 16

**Preclinical Proton Therapy and Imaging**  
Tord Hompland

**Genomics and Bioinformatics**  
Susanne Lorenz

**Flow Cytometry**  
Idun Dale Rein

**Advanced Light and Electron Microscopies**  
Ellen Skarpen

- The Advanced Light Microscopy facility has enhanced its capabilities by introducing the Zeiss LSM 980 Airyscan2 confocal super-resolution microscope for live-cell imaging.
- Secured funding will allow the Advanced Light Microscopy facility to acquire an Incubation microscope, ideal for monitoring live samples for prolonged periods.
- The Electron Microscopy facility has advanced its 3D imaging capabilities by implementing array STEM tomography for large-volume analysis.
- The Bioinformatics Core Facility has developed expertise in analysing data from Oxford Nanopore Technologies, enhancing its analytical service offerings.
- The Flow Cytometry Core Facility hosted the 11th Norwegian Flow meeting in Tromsø.
- The Genomics Core Facility is a pioneer in Europe. It has installed the first Element AVITI24 system, expanding its cutting-edge sequencing and single-cell multi-omics offerings.
- The genomics facility excels at delivering top-quality services, having achieved Certified Service Provider status for 10x Genomics, NanoString, and TWIST technologies.
- The new Preclinical Proton Therapy facilities were taken over in 2024, with full operational functionality expected by 2025.



**PROTON THERAPY** is an advanced and highly precise form of radiotherapy that offers the potential for a less toxic and more effective cancer treatment. The Department of Core Facilities at ICR hosts the core facility for Preclinical Proton Therapy.

*Tord Hompland (unit leader) and Tiril Hillestad (Engineer)*

# New Preclinical Proton Therapy Facility

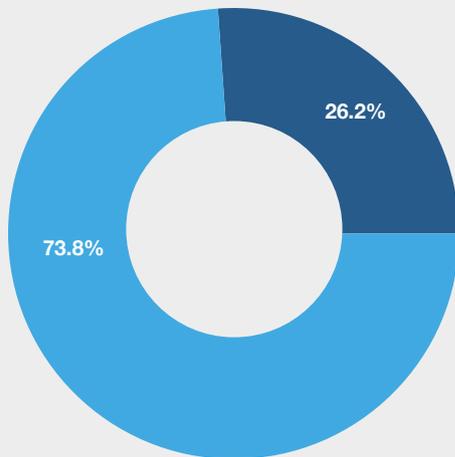
- The core facility, which features a dedicated animal facility and cell laboratory, is equipped to investigate the efficacy of proton therapy in preclinical models. It is scheduled to open in Autumn 2025.
- Norsk Hydro and Hartmann Fond funded a state-of-the-art treatment planning system and a compact animal MRI scanner.
- The Norwegian Research Council recently supported a pre-project on the national proton therapy research infrastructure, which was coordinated by ICR.
- Several preclinical research projects have recently been funded to conduct experiments at the facility.



# The Funding

**In 2024, Institute researchers received more than 450 million NOK in incoming new grants (40 different grants) starting 2025. This includes:**

- A new 13.6-mEUR, 28-partner EU Cancer Mission project on heritable cancer, PREDI-LYNCH, to be coordinated by Mev Dominguez-Valentin in ICR Dept of Tumor Biology
- A 50-mNOK grant to ATMP-Norway as a new research infrastructure to support pre-GMP, GMP and quality control across several nodes (PIs Kalle Malmberg and Anna Pasetto) funded by the Research Council of Norway
- A new 18-mNOK, 6-partner EP PerMed grant, CLL-Outcome, coordinated by Sigrid Skånland
- New grants from the Norwegian Cancer Society, the Research Council of Norway, the Regional Health Authority for South-Eastern Norway, the national Norwegian Clinical Trials Programme, grants (as partner) from EU Horizon Europe, EU4Health, MSC Actions and other EU programmes as well as private funding.

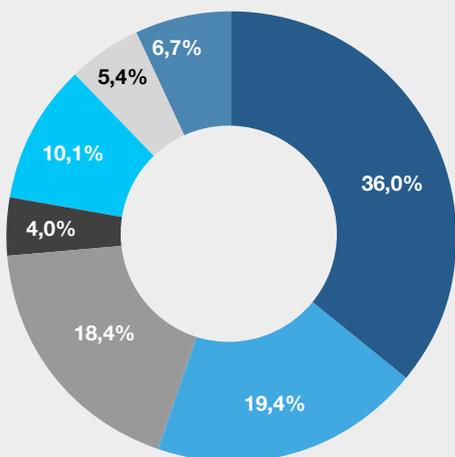


## Funding in 2024

Percent

Actual Institute expenditure for 2024 by internal and external funding sources (total 427,5 MNOK = approx. 36,7 M€)

- Internal funding
- External funding



## External funding by source

Percent

Sources of external competitive funding for 2024, based on actual expenditure (total 315,5 MNOK= approx. 27,1 M€)

- South-Eastern Norway Regional Health Authority
- The Research Council of Norway
- The Norwegian Cancer Society
- University of Oslo
- EU
- Other international sources
- Other private sources



# The Centres



*Bjørnar Gilje from Stavanger University Hospital presented MATRIX at Onkologisk Forum 2024 in Bergen.*

## MATRIX – Norwegian Centre for Clinical Cancer Research



**Director Åslaug Helland, Co-Director Stein Kaasa**  
**Hosted by OUH, Division of Cancer Medicine.**

- MATRIX develops next-generation precision diagnostics and treatment as well as new, digital cancer care tools that secure treatment and follow-up tailored to the individual patient.
- In April, MATRIX co-organized a national 3-day course on patient and public involvement in medical and health research in Bergen for 85 researchers and user representatives.
- Novartis was the first pharma company to enter an agreement with MATRIX securing study drugs for 72 patients in the MATRIX-RARE clinical trial (*Precision medicine in hard-to-treat cancers - Repurposing drugs in earlier lines of treatment*). The trial will open Q1 2025.
- MATRIX currently supports 10 clinical trials, and since the opening of the centre, more than 280 patients have received study treatment or diagnostics through MATRIX-supported studies.
- In December, MATRIX together with Kjetil Taskén, winner of the UiO innovation prize 2023, welcomed 90 participants to a full day symposium on public service innovation in the Norwegian Academy of Science and Letters.



## “Reprogramming of cancer”



## Centre for Cancer Cell Reprogramming (CanCell)

Headed by Director Harald Stenmark, Co-Director Anne Simonsen.  
Hosted by Institute of Clinical Medicine, UiO



CanCell is a Norwegian Centre of Excellence initiated in 2018. It has four groups from Department of Molecular Cell Biology (Stenmark, Simonsen, Rusten and Enserink), one group from Department of Tumour Biology (Wesche) and one group from Institute of Basic Medical Sciences (Eskeland). The aim of the centre is to identify the vulnerabilities of cancer cells and to target these for reprogramming cancer cells into harmless cells.

- Demonstration that cancer cells can transmit their invasive properties to neighbouring cells by transfer of a matrix metalloprotease (Wenzel et al., *Nature Communications*).
- New tool for measuring cancer cell migration (Holme et al., *Scientific Reports*).
- Identification of a novel autophagic mechanism that degrades hypersignalling endosomes, si-maphagy (Migliano et al., *Autophagy*).
- Demonstration that ex vivo analyses of drug sensitivity can determine response and risks for individual patients with acute lymphatic leukemia (Andersen, Brodersen et al., *Cell Reports Methods*).

# The Centres



“PRIMA will develop the next generation of precision immunotherapy”

## Precision Immunotherapy Alliance (PRIMA)



Precision  
Immunotherapy  
Alliance

Headed by Director K.J. Malmberg, Co-Director J. Olweus.  
Hosted by Institute of Clinical Medicine, UiO

- Compiled a pan-cancer single-cell transcriptional reference map describing NK cell states present in normal tissue and tumors. *Nature Immunology* 2024.
- Developed and reviewed novel approaches to improve persistence of allogeneic T and NK cell therapy products. *Cell Stem Cell* and *Nature Reviews Immunology* 2024.
- Spasevska/Myklebust group oral presentation at ECI 2024, and Giannakopoulou/Olweus group awarded best publication prize (*Nature Cancer*) among all K.G. Jebsen Centers.
- Assembled a database with more than 100,000 HLA-bound peptides detected by mass spectrometry.
- Developed a new antibody technology that secures favorable pharmacokinetic properties as well as enhanced killing. *Nature Communications* 2024.

## ATMP Norway and the ACT Center

**Headed by Anna Pasetto.**  
**Hosted by Section for Cell Therapy,**  
**Dept. of Oncology, OUH,**  
**Co-hosted by the ICR**

- Currently support 11 projects at pre-GMP (7) and GMP stage (4)
- Delivered multiplex engineered hypo-immune pancreatic islet cells for treatment of Type 1 Diabetes.
- Delivered a GMP-certified master feeder cell bank and irradiated clinical batches for expansion of adaptive NK cells



**“Bringing best in class cell therapy to Norwegian patients”**

## K.G. Jebsen Centre for B-cell Malignancies

**Headed by Ludvig A. Munthe and June H. Myklebust.**  
**Hosted by Institute for Clinical Medicine, UiO.**

- Developed new clinical guidelines for immunotherapy (Lancet Oncol), and contributed to international trials testing new drug combinations and chemotherapy dose de-escalation (N Engl J Med, Lancet, J Clin Oncol).
- Strong focus on ex-vivo drug sensitivity testing and precision cancer medicine: Developed protocols (Cell Death Discov), participated in drug development (Science) and enrolled first patients in IMPRESS-Norway cohort for multiple myeloma.
- Multi-omics analysis of lymphoma biopsies identified early genetic events, and CREBBP KAT domain mutation associated with better outcome (Blood Cancer J).



**“From basic research and preclinical studies to precision medicine for B-cell malignancies”**

# The Centres

STRATEGIC RESEARCH AREA FOR  
OSLO UNIVERSITY HOSPITAL

## Strategic Research Area in Cell and Gene Therapy (StratCell)

Headed by **K. J. Malmberg**,  
**A. Pasetto** and **J-A. Kyte**.

- Facilitated GMP tech-transfer of CAR T cell engineering protocols based on viral transfer and mRNA.
- Supported the launch of tailored GMP-training modules at the ACT center
- Secured 50MNOK funding from RCN-INFRA call to establish ATMP Norway, a multi-nodal infrastructure to support pre-GMP, GMP and quality control



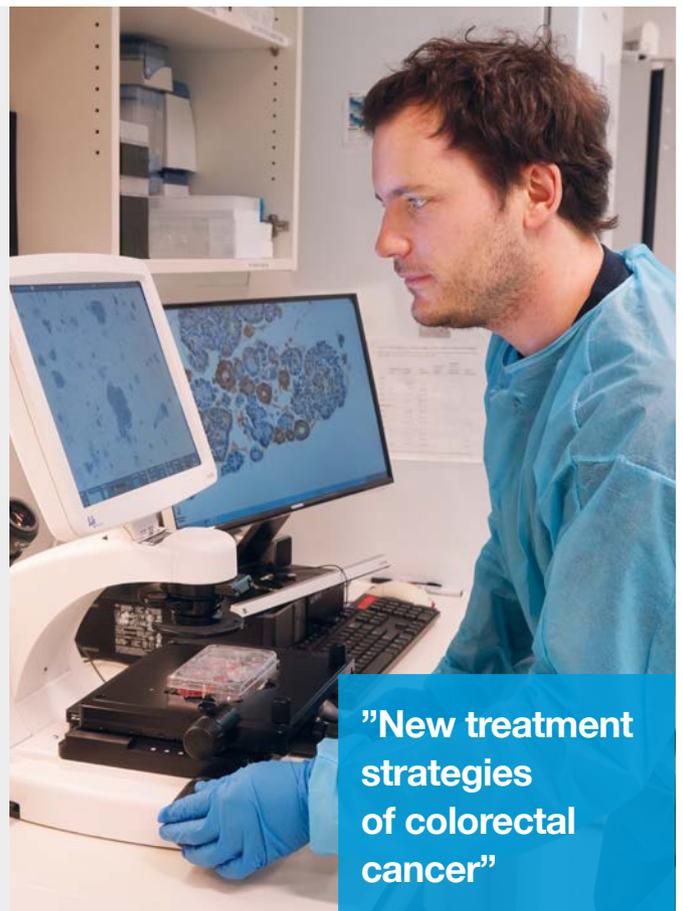
**“Fast-tracking clinical implementation of new innovative strategies for gene-editing of cytotoxic lymphocytes”**

STRATEGIC RESEARCH AREA FOR  
OSLO UNIVERSITY HOSPITAL

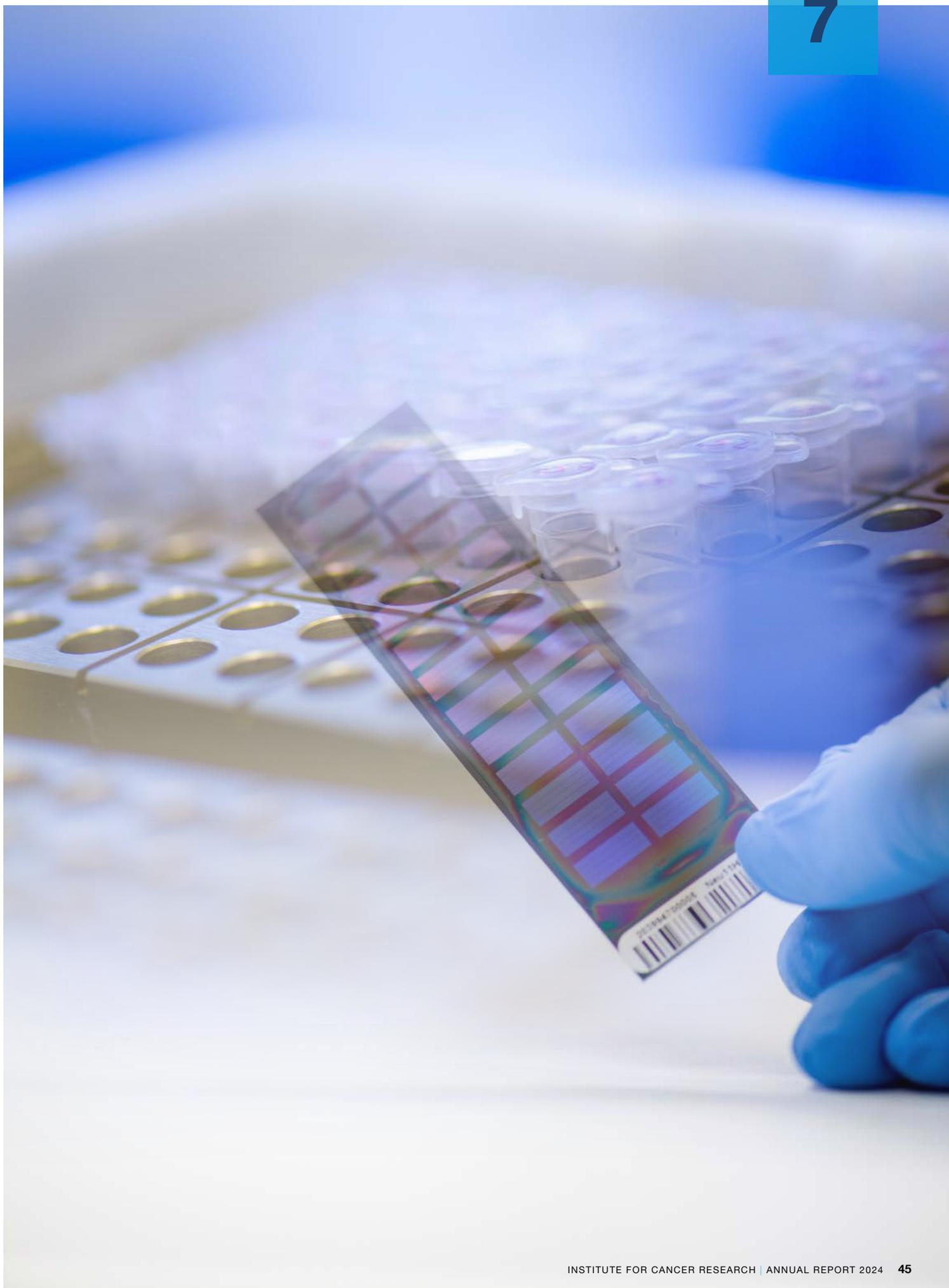
## TEAM-ACT: Tumor Evolution in Advanced Models to Accelerate precision Cancer Therapy

Headed by **Ragnhild A. Lothe** and **Anita Sveen**

- Transcriptomics of multiregional samples of colorectal cancers identify molecular classes that are less vulnerable to tumor heterogeneity (Langerud et al., Nat Comm 2024).
- Observational phase of a functional precision oncology study of colorectal cancer was completed, including pharmacogenomic and morphological analyses of a living biobank of patient-derived organoids from >300 liver metastases and >150 patients (Kryeziu et al., submitted). A clinical intervention study is ongoing.
- Mutations associated with poor survival benefit from liver transplantation of metastatic colorectal were identified and proposed as new markers for patient selection (Moosavi et al., submitted).



**“New treatment strategies of colorectal cancer”**



# The Clinic

## The ICR as a gravity point in Oslo University Hospital Comprehensive Cancer Centre



With its OECI-accredited Comprehensive Cancer Centre, Oslo University Hospital is increasingly recognised as a leading cancer centre in Europe. The Institute for Cancer Research (ICR) is a key component of the CCC. It serves as a competence hub with world-leading research groups and environments important in populating prioritised development areas in our CCC, such as the national precision cancer medicine initiative, our cell-gene therapy program, and the pre-clinical proton therapy unit. The CCC structure and integration of research and care are essential for the quality of cancer care, and according to the Europe Beating Cancer plan and the objectives of the EUnetCCC Joint Action, where our hospital makes a considerable effort, access to a CCC or CCC network should be offered to all cancer patients in Europe by 2030.

The Institute is near clinical cancer departments and diagnostic laboratories at the Radium Hospital campus, with Oslo Cancer Cluster and the Cancer Registry of Norway as neighbours. This proximity has been vital for our strong track record in translation and innovation developed over the past 70 years of operation of the ICR. With the opening of the new clinical buildings in 2024 and the proton centre at the Radium Hospital in March 2025, this unique concept will be strengthened and further developed.

More patients in clinical trials is an expressed aim for the CCC. I am pleased with the many investigator-initiated clinical trials developed in close collaboration between researchers at ICR and clinical research groups at all locations of Oslo University

Hospital. New methodologies for patient stratification and other biomarker analyses developed at the ICR in close collaboration with diagnosticians and high-quality translational research connected to trials facilitate cutting-edge clinical research. Furthermore, the Institute has been able to reach out to most clinical research groups working on different cancer diagnoses, and today, we cover all the common and many rare cancers together.

The extensive international collaboration involving researchers at ICR is also an essential asset for the CCC. In the integrated organisation of cancer-related activities, the ICR continues to be a gravity point in developing Oslo University Hospital as a leading cancer centre in Europe and meeting the ambitions and opportunities given by the focus of the EU Cancer Mission and Europe's Beating Cancer Plan. I congratulate the ICR on its 70th anniversary in 2024; I am proud to have the Institute as an integrated part of OUS and the OUS-CCC.



Sigbjørn Smeland  
*Head of Division of Cancer Medicine  
Chair, OUS CCC Board*

## Translation and Innovation at the ICR

At the ICR, we are committed to advancing innovation and translational research while fostering collaboration, coordination, and cohesion across hospital units, including clinical departments, pathology, radiology, and radiation biology.

Our Translational Research and Innovation Committee (TRIC), which comprises the heads of each division, meets monthly to review ongoing innovations and translational research projects. The aim is to maintain a strategic focus on these activities, ensuring constructive discussions and

providing critical project feedback. Additionally, TRIC identifies bottlenecks and mobilizes the necessary competencies within our organization to address challenges effectively. ICR leads the way in generating the highest number of DOFIs and patent applications across OUH and UiO, according to Inven2, our technology transfer office. Inven2 actively engages with our institute by holding regular meetings with divisions focusing on establishing collaboration with new project leaders and senior researchers. Each year, TRIC reviews approximately 20 translation and innovation projects.

Our translational and innovation activities are supported through collaborations with the UiO Growth House, the UiO/OUH SPARK program, Inven2, and the RadForsk Investment Fund. These efforts are further bolstered by funding from HSE and RCN innovation grants and partnerships with investors and industry leaders.

Through these initiatives, ICR continues to drive impactful research and innovation, advancing patient care and scientific discovery.

## Clinical intervention trials where Institute researchers play a prominent part

- **ALICE** - Atezolizumab Combined With Immunogenic Chemotherapy in Patients With Metastatic Triplenegative Breast Cancer  
ClinicalTrials.gov: #NCT03164993  
PI: Jon Amund Kyte  
Partner labs: Jon Amund Kyte, Hege Russnes
- **ASAC** - Aspirin as secondary prevention in colorectal cancer liver metastasis ([www.asac.no](http://www.asac.no))  
ClinicalTrials.gov; #NCT03326791  
PIs: Sheraz Yaqub and Kjetil Taskén
- **BladMetrix** - Urine-based surveillance study of bladder cancer recurrence  
PI: Guro E. Lind.  
Clinical manager: Rolf Wahlqvist
- **BM7-PE** - A Phase I/II Study with BM7PE Immunotoxin in Colorectal Cancer Patients  
ClinicalTrials.gov: #NCT 04550897  
PI: Geir Olav Hjortland  
Partner: Kjersti Flatmark
- **ComIT** - Combinatory ImmunoTherapy-1  
ClinicalTrials.gov: #NCT03644823  
PI: Åslaug Helland  
Partner lab.: Åslaug Helland
- **COM-IT-2** Immunotherapy combined with extensive radiotherapy for the treatment of stage IV non-small cell lung cancer  
EudraCT: #2021-003266  
PI: Vilde Haakensen  
Partners: Tarje Halvorsen, Bjørn Henning Grønberg, Kirill Neumann, Sigve Andersen
- **DART** – Durvalumab after chemo-radiotherapy for NSCLC (multinational phase II trial)  
ClinicalTrials.gov: #NCT04392505  
PI: Åslaug Helland  
Partner lab.: Åslaug Helland
- **EVIDENT** – Ex vivo drug sensitivity testing in metastatic colorectal cancer.  
ClinicalTrials.gov: #NCT05725200  
PI: Tormod K. Guren  
Partner lab.: Ragnhild A. Lothe
- **ImPRESS-losartan** - Imaging perfusion restrictions from extracellular solid stress.  
EudraCT: #2018-003229-27  
PI: Petter Brandal  
Partner labs: Kyrre Eeg Emblem, Åslaug Helland/Vilde D Haakensen
- **IMPRESS-Norway** – Improving public cancer care by implementing precision medicine in Norway  
ClinicalTrial.gov: #NCT04817956;  
<https://impressnorway.no/en>  
Institute participants:  
National PI: Åslaug Helland  
Trial Management Committee: Hege Russnes, Kjetil Taskén, Jon Amund Kyte; Trial Steering Committee: Eivind Hovig, Leonardo Meza-Zepeda, Ragnhild Lothe plus TMC members;  
Coordinator: Kajsa Johansson
- **LD-VenEx** - Phase II “feasibility” study of azacitidine in combination with low dose venetoclax in patients with acute myeloid leukemia  
EudraCT: #2020-005461-14  
PI: The Nordic AML Group  
Partner lab: Jorrit Enserink
- **METIMMOX-2**: Metastatic pMMR/MSS Colorectal Cancer - Shaping Anti-Tumor Immunity by Oxaliplatin  
ClinicalTrial.gov: #NCT05504252  
PI: Anne Hansen Ree  
Partner lab: Kjersti Flatmark
- **METOXY-LACC** - Altered Tumor Oxygenation by Metformin, a Potential Step in Overcoming Radiotherapy Resistance in Locally Advanced Cervical Cancer (LACC)  
ClinicalTrials.gov: #NCT04275713  
PI: Kjersti Bruheim  
Partner lab: Heidi Lyng
- **MITRIC** - Microbiota Transplant to Cancer Patients Who Have Failed Immunotherapy Using Faeces From Clinical Responders  
ClinicalTrials.gov: #NCT05286294  
PI: Jon Amund Kyte  
Lab partner: Jon Amund Kyte
- **NAPEER** - NeoAdjuvant PErsonalized therapy in Estrogen Receptor positive (+) breast cancer  
EudraCT: #2021-005850-27  
PI: Olav Engebråten  
Partner lab: Mads H. Haugen / Gunhild M. Mælandsmo
- **NIPEC-OXA**; Normothermic Intraperitoneal Chemotherapy - Long Term in Peritoneal Metastases from Colorectal Cancer  
ClinicalTrials.gov: #NCT05056389  
PI: Mariusz Goscinski  
Partner lab: Kjersti Flatmark
- **NIPU** – Nivolumab and ipilimumab +/- UV1 vaccine in second line treatment of mesotheliomas  
ClinicalTrials.gov: #NCT04300244  
PI: Åslaug Helland  
Partner lab.: Vilde Haakensen
- **NorPACT-1/2** - Neo-adjuvant chemotherapy for pancreatic cancer  
ClinicalTrials.gov: #NCT02919787  
PI: Knut Jørgen Labori  
Partner lab: Elin Kure
- **PERELI** – PEmigatinib and REtitanlimab in advanced dedifferentiated Liposarcoma  
CTIS: #2022-501993-21-00  
PI: Kjetil Boye  
Partner lab.: Jørgen Wesche
- **Perioperative Propranolol in Robotic Assisted Laparoscopic Prostatectomy (PeP-RALP) - A Pilot Study**  
EudraCT: #2022-001184-28  
PI: Shivanthe Sivanesan  
Partner lab: Kristin A. Taskén/Gunhild M. Mælandsmo
- **RADPAINT-3** - RAdiotherapy with FDG-PET guided Dose-PAINTing for primary head and neck cancer-3  
NCT06297902 ,  
PI: Einar Dale,  
Partner lab: Lyng, Malinen
- **Sequential neoadjuvant ifosfamide and doxorubicin in localized high-grade soft tissue sarcoma of extremities and trunk wall**  
ClinicalTrials.gov: #NCT04776525  
PI: Kjetil Boye  
Partner lab.: Jørgen Wesche



# The International Network

ICR members report collaborations with researchers at **243** institutions in **43** countries world-wide.

## ARGENTINA

- Hospital Italiano de Buenos Aires, Buenos Aires
- Hospital Privado Universitario de Córdoba, Córdoba

## AUSTRALIA

- Kinghorn Cancer Centre, Sydney
- Monash University, Melbourne
- University of Melbourne, Parkville, Victoria

## AUSTRIA

- Institute of Pathophysiology Biocenter, Innsbruck Medical University, Innsbruck
- Medical University of Vienna, Vienna

## BELGIUM

- Catholic University of Brussels, Brussels
- Ghent University, Ghent
- Katholieke University Leuven, Leuven
- Universiteit Hasselt, Genk
- UZ Leuven, Leuven

## BOLIVIA

- Instituto de Servicios de Laboratorio de Diagnóstico e Investigación en Salud (SELADIS), La Paz

## BRAZIL

- AC Camargo Hospital, Sao Paulo
- Hospital Sirio Libanes, Sao Paulo
- Hospital Universitário Oswaldo Cruz
- Universidade de Pernambuco, Recife
- Universidade Federal de Bahia, Bahia

## CANADA

- McGill University, Montreal
- Princess Margaret Hospital, Toronto
- University of Ottawa, Ottawa

## CHILE

- Clínica Universidad de los Andes, Santiago
- Hospital Regional de Antofagasta, Antofagasta

## COLOMBIA

- University of Tolima, Tolima

## COSTA RICA

- Hospital Dr. Rafael Ángel Calderón Guardia, San José

## CROATIA

- Centre of Oncology, Split
- Klinički Bolnički Centar Sestre Milosrdnice, Zagreb
- University of Zagreb, Zagreb

## CZECH REPUBLIC

- Charles University, Prague
- Institute of Experimental Biology, Masaryk University, Brno
- Masaryk Memorial Cancer Institute, Brno
- National Institute of Public Health, Prague

## DENMARK

- Aalborg University Hospital, Aalborg
- Aarhus University Hospital, Aarhus
- Copenhagen University Hospital, Copenhagen
- Herlev Hospital, Copenhagen
- Hvidovre Hospital, Copenhagen
- University of Copenhagen, Copenhagen
- University of Southern Denmark, Odense

## ECUADOR

- Hospital de Especialidades Eugenio Espejo, Quito

## ESTONIA

- Hematology and Oncology Clinic, Tartu

## FINLAND

- Finnish Institute of Molecular Medicine, Nordic EMBL partnership, Helsinki
- Helsinki University Hospital, Helsinki
- Pharmatest Services Ltd, Turku
- Tampere University of Technology, Tampere
- The Southern Finland Regional Cancer Center
- University of Helsinki, Helsinki
- University of Jyväskylä, Jyväskylä
- Zora Oy, Espoo

## FRANCE

- Aix-Marseille Université, Marseille
- APHP - Sorbonne Université, Paris
- Centre Léon Bérard, Lyon
- Centre National de Génotypage, Paris
- EurOPDX - European Consortium on Patient-derived Xenografts, Paris
- Hôpital Saint Antoine -APHP, Paris
- Institut Gustave Roussy, Paris
- Institut National de la Santé et de la Recherche Médicale, Paris
- Institut Curie, Paris
- Institute of Systems and Synthetic Biology Genopole, UEVE, CNRS, Evry
- International Agency for Research on Cancer (IARC), Lyon
- Large Heavy Ion National Accelerator (CEA, CIMAP, GANIL), Caen
- Unicancer, Paris

- Université de Lorraine, Nancy
- Université Lyon, Villeurbanne
- Université Paris-Süd, Orsay

## GERMANY

- EMBL, Heidelberg
- Heidelberg University Hospital, Heidelberg
- Jacobs University, Bremen
- Johannes Gutenberg University in Mainz, Mainz
- Technische Universität Dresden, Dresden
- University Hospital Düsseldorf, Düsseldorf
- Universität München, Munich
- University of Bayreuth, Bayreuth
- University of Bochum, Bochum
- University of Bonn, Bonn
- University of Cologne, Cologne
- University of Freiburg, Freiburg
- University of Heidelberg, Heidelberg
- University of Leipzig, Leipzig
- University of Mainz, Mainz
- University of Marburg, Marburg
- University of Stuttgart, Stuttgart
- University Witten-Herdecke, Herdecke

## GREECE

- National and Kapodistrian University of Athens, Athens
- National Centre for Scientific Research "Demokritos", Athens
- University of Ioannina, Ioannina

## HUNGARY

- National Institute of Oncology, Budapest
- Semmelweis University, Budapest
- University of Szeged, Szeged

**ICELAND**

- University of Iceland, Biomedical Center, Reykjavik

**INDIA**

- Indian institute of Technology, Hyderabad
- Institute of Human Genetics, FRIGE House, Ahmedabad
- Savitribai Phule Pune University, Pune

**IRELAND**

- National Institute for Bioprocessing Research and Training (NIBRT), Dublin
- St Vincent's University Hospital, Dublin
- Trinity College, Dublin

**ISRAEL**

- Hadassah medical center, Jerusalem
- Rabin Medical Center
- Rambam Health Care Campus, Haifa
- Soroka University Medical Center, Beer Sheva
- Technion - Israel Institute of Technology, Haifa
- Tel-Aviv University, Tel-Aviv
- The Genetic Institute, Kaplan Medical Center, Rehovot
- Weizmann Institute, Rehovot

**ITALY**

- Azienda Ospedaliera Universitaria Senese, Siena
- Circolo Hospital in Varese, Varese
- European Institute of Oncology, Milan
- Fondazione Policlinico Universitario A. Gemelli IRCCS, Roma
- IFOM, Milan
- International School for Advanced Studies, Trieste
- IRCCS Humanitas Research Hospital, University of Parma, Parma
- IRCCS San Raffaele Scientific Institute, Vita-Salute San Raffaele University, Milan
- Istituto Nazionale di Tumori, Milano
- The Rizzoli Institute, Bologna
- University of Bologna, Bologna
- University of Milan Bicocca, A.O. San Gerardo, Clinic of Obstetrics and Gynecology, Monza (MB)
- University of Padova, Padova
- University of Parma, Parma
- University of Salento, Lecce

**JAPAN**

- Tokyo Metropolitan Cancer and Infectious Diseases Center, Tokyo

**LATVIA**

- Rigas Stradina Universitate, Riga

**LITHUANIA**

- National Cancer Institute, Vilnius

**MEXICO**

- Instituto Nacional de Cancerologia, Mexico DC

**NORWAY**

- Cancer Registry of Norway, Oslo
- Haukeland University Hospital, Bergen
- Norwegian University of Life Sciences, Ås.

- Norwegian University of Science and Technology, Trondheim
- Stavanger University Hospital, Stavanger
- Trondheim University Hospital - St. Olavs Hospital, Trondheim
- University Hospital of Northern Norway, Tromsø
- University of Bergen, Bergen
- University of Oslo, Oslo

**PERU**

- Hospital Nacional Edgardo Rebagliati Martins, EsSalud, Lima
- Instituto Nacional de Enfermedades Neoplasicas, Lima
- Universidad Nacional Mayor de San Marcos, Lima
- Universidad Peruana de Ciencias Aplicadas, Lima
- Universidad Ricardo Palma, Lima
- Universidad Tecnológica del Perú, Lima

**POLAND**

- Faculty of Biotechnology, University of Wrocław, Wrocław
- International Hereditary Cancer Center, Szczecin
- Jagiellonian University, Kraków
- Maria Skłodowska-Curie National Research Institute of Oncology, Warsaw
- University of Gdansk, Gdansk

**PORTUGAL**

- Institute of Molecular Pathology and Immunology, University of Porto
- Instituto de Investigação e Inovação em Saúde da Universidade do Porto, Porto
- Portuguese Oncology Institute, Porto
- University of Aveiro, Aveiro

**ROMANIA**

- Center for Innovation in Medicine, Bucharest
- Horia Hulubei National Institute for Physics and Nuclear Engineering
- Bucharest - Magurele

**RUSSIA**

- Institute of Cytology and Genetics, Novosibirsk

**SINGAPORE**

- Cancer Science Institute of Singapore, Singapore

**SPAIN**

- Biocruces Bizkaia Health Research Institute, Barakaldo
- CABIMER, University of Sevilla, Sevilla
- Centre for Biological Studies, Madrid
- Fundacion Instituto Valenciano de Oncologica (FIVO), Valencia
- ICGC, Technical validation group and Ivo Gut, Barcelona
- Institut Català d'Oncologia-IDI-BELL, L'Hospitalet de Llobregat, Barcelona
- Universidad de Granada, Granada
- University of Barcelona, Barcelona
- University of Santiago de Compostela, Compostela
- University of Lleida, Lleida
- University of Valencia, Valencia
- Universitat Politècnica de València, Valencia
- Vall d'Hebron Institute of Oncology, Barcelona

- Vall d'Hebron Institute of Oncology, Barcelona

**SWEDEN**

- Karolinska Institutet, Stockholm
- Lund University, Lund
- Stockholm School of Economics, Stockholm
- Stockholm University
- Swedish Institute for Health Economics, Lund
- The Sahlgrenska Academy at the University of Gothenburg, Gothenburg
- Uppsala University Hospital, Uppsala

**SWITZERLAND**

- Medical Genetics, Institute for Medical Genetics and Pathology, University Hospital Basel, Basel
- UDG Alliance, Geneva
- University Hospital Zurich, Zurich

**THE NETHERLANDS**

- Erasmus University Medical Center, Rotterdam
- Leiden University Medical Centre, Leiden
- Netherlands Cancer Institute (NKI), Amsterdam
- Radboud University Nijmegen, Nijmegen
- The Netherlands Proteomics Centre, Utrecht
- University Medical Center, Groningen
- Utrecht University, Utrecht
- VU Medical Center, Amsterdam

**TUNISIA**

- Tunis El Manar University, Tunis
- University of Tunis, Tunis

**UNITED KINGDOM**

- Cambridge Cancer Institute, Cambridge
- Cancer Research UK, London
- Cardiff University, Cardiff
- Hampshire Hospitals/Southampton University, Southampton
- Institute of Cancer and Genomic Sciences, University of Birmingham, Birmingham
- London Research Institute, The Francis Crick Institute, London
- Lynch Syndrome & Family Cancer Clinic, St Mark's Hospital, London
- Newcastle University, Newcastle upon Tyne
- Queen's University Belfast
- Royal National Orthopaedic Hospital, Stanmore, Middlesex
- The Beatson Institute for Cancer Research, Glasgow
- The European Bioinformatics Institute (EMBL-EBI), Hinxton
- University College London Medical School, UCL, London
- University of Cambridge, Cambridge
- The University of Edinburgh, Edinburgh
- University of Liverpool, Liverpool
- University of Manchester, Manchester
- University of Oxford, Oxford
- University of Southampton, Southampton
- University of Warwick, Coventry
- Wellcome Sanger Institute, Hinxton
- Buck Institute for Research on Aging, Novato, California
- Dana Farber Cancer Institute, Boston, Massachusetts
- Dartmouth College, Hanover, New Hampshire
- Duke University Medical Center, Durham, North Carolina
- Fred Hutchinson Cancer Research Center, Seattle, Washington
- Georgetown University, Washington DC
- Harvard University, Boston, Massachusetts
- Johns Hopkins Medicine, Baltimore, Maryland
- Knight Cancer Institute, Oregon Health Sciences University
- Lawrence Berkeley National Laboratory, Berkeley, California
- Lineberger Comprehensive Cancer Center, Chapel Hill, North Carolina
- Masonic Cancer Center and University of Minnesota, Minneapolis
- Massachusetts General Hospital, Boston, Massachusetts
- MD Anderson Comprehensive Cancer Center, Houston, Texas
- MedKoo Biosciences, Morrisville, North Carolina
- Memorial Sloan Kettering Cancer Center, New York
- Moffitt Cancer Center, Tampa Florida
- National Institutes of Health (NIH), Bethesda, Maryland
- Oregon State University, Corvallis, Oregon
- Princeton University, New Jersey
- Rutgers Cancer Institute of New Jersey
- Stanford University, California
- The Mount Sinai Hospital, New York
- The University of Kansas Hospital, Kansas
- Tisch Cancer Institute, New York
- UCSF, Helen Diller Family Cancer Centre, San Francisco, California
- University of Albany, New York
- University of California, Berkeley, California
- University of Chicago, Illinois
- University of Colorado, Denver, Colorado
- University of Illinois, Champaign, Illinois
- University of Vermont, Burlington
- University of Washington, Seattle, Washington
- University of Wisconsin Carbone Cancer Center, Wisconsin
- Washington University, St Louis, Missouri
- Weill Medical College of Cornell University, New York
- Yale School of Medicine, New Haven

# The Next Generation

Some of the new recruits bringing in new competence in 2024



**Giovanna Perinetti Casoni**

*Postdoctor*

Casoni is Italian and has a PhD in Immunology from Karolinska Institutet in 2023, where she was working on effector functions of cytotoxic lymphocytes. Her postdoc project concerns molecular mechanisms regulating the functional maturation of NK cells from induced pluripotent stem cells (iPSCs). She is a member of Malmberg research group, Natural Killer Cell Biology and Cell Therapy.



**Inga Juvkam Solgård**

*Postdoctor*

Inga holds an MSc in cellular memory mechanisms in skeletal muscle from the Department of Biosciences at the University of Oslo (UiO). She obtained her PhD from the Institute of Oral Biology, UiO, where she studied normal tissue effects induced by proton and X-irradiation in the head and neck region of mice. She has broad experience in laboratory studies, including in vitro and in vivo work, as well as expertise in designing experiments involving ionizing radiation. She is a member of Malinen's group at the Department of Radiation Biology, where she continues to study normal tissue effects from proton irradiation while also expanding her research to tumor models.



**Katy McCarron**

*Postdoctor*

Katy obtained her PhD in molecular cell biology at University of Liverpool, UK, on a project concerning endolysosomal stress in the development of Parkinson's

disease. She has experience in a wide range of cell and molecular biology methods, including advanced light microscopy and flow cytometry. She is a member of in Maja Radulovic's project group in Harald Stenmark's group. In Maja's project group she will be working on projects related to lysosome repair and its importance in cancer biology.



**Ann Christin Garvert**

*Postdoctor*

Anna Christina Garvert recently completed her PhD at the University of Oslo in the lab of Koen Vervaeke, where she focused on applying machine learning techniques to analyze and understand neural data. In the spring of 2024, she joined the Department of Cancer Genetics as a Postdoctoral researcher in Åslaug Helland's group. Her current research centers on developing an AI tool to identify and characterise oligometastatic non-small cell lung cancer (NSCLC) patients by segmenting metastases from CT and MRI scans. She aims to stratify oligometastatic patients from those with more extensive metastatic disease and analyze treatment strategies and outcomes, ultimately improving care for this subgroup.



**Marie K. Gillstrøm**

*MSc. Special Engineer*

Marie works at the Genomics Core Facility and has been involved in establishing new single-cell and spatial services at the facility. As a technology expert in these areas, she has developed expertise in various advanced workflows and collaborates closely with users to optimise their experiments.



**Luis Nunes**

*Postdoctor*

Luis Nunes has competence in colorectal cancer genomics (Nunes et al., Nature 2024) and was recruited to the Lothe lab. in 2024. Nunes was trained in the labs of Bengt Glimelius and Tobias Sjöblom and defended his PhD at Uppsala University, Sweden, in 2023. He is pursuing his research interests with multi-omics data integration in the context of tumor heterogeneity and metastasis development in colorectal cancer. He belongs to the Lothe group, Department of Molecular Oncology.



**Andrea Terrasi**

*Postdoctor*

Andrea has recently defended his PhD at Ludwig Maximilian University of Munich, where he identified and characterised the role of FOXJ1 in pancreatic cancer. He possesses extensive experience in cancer biology and bioinformatics, analysing various cancer types. He will investigate intra- and inter-tumour heterogeneity in Gastrointestinal Stromal Tumours using specialised transcriptomics and single-cell analyses to uncover the molecular determinants that drive GIST progression. He is a member of the Meza-Zepeda Translational Genomics Project Group within the Department of Tumour Biology.



*Idun Dale Rein, Karin Teien Lande, Evy Marie Thorkildsen, Thomas Fleischer, Karen-Marie Heintz and Merete Thune Wiiger. (Absent: Ane Sofie Viset Fremstedal, Catherine Sem Wegner, Gry Aarum Geitvik, Ina Katrine Nitschke Pettersen)*

## Competency Development Program for Engineers at the ICR

The ICR focuses on career development to improve the staff's professional growth and development across all categories, ensuring they have access to all resources and opportunities necessary for success in their respective fields.

In the category of Engineers, ICR has approximately 100 staff members essential for the institute's smooth operation, research activities, and knowledge production. In 2023, the ICR Career Development Committee conducted a comprehensive needs assessment and as evident by the gap analysis that followed,

there was no structured approach to offer career and competence development for this group.

To ensure competence development for Engineers, the ICR has developed a competency plan. The work started in mid-2023 with a working group of engineers, unit leaders with engineering backgrounds and representatives for the employee unions. The engineer group at ICR is diverse, with backgrounds spanning from BSc to PhD and the focus varying from lab management to scientific expertise. In addition, the OUH does not offer scientific courses to the group. Therefore, the working group looked

at alternatives to ensure competence development but still maintaining diversity in the group.

At the core of the competency plan is the annual employee appraisal interview. The working group have suggested a list of activities, and the employee and leader can choose two activities each year. The aim is to give a higher focus on competency development during the appraisal interview in this group and to ensure that all engineers have access to development throughout their careers.

# The Communication is Key

Communication in cancer research facilitates knowledge exchange among researchers and clinicians and promotes the connection between the research community and the wider public. In 2024, our researchers from ICR published 200 peer-reviewed papers, organised some 45 national and international

meetings, participated in many more and communicated about our research through almost 500 talks, interviews, newspaper contributions, and more than 500 social media posts. This demonstrates the commitment of ICR to advancing cancer diagnosis, treatment, and public outreach.

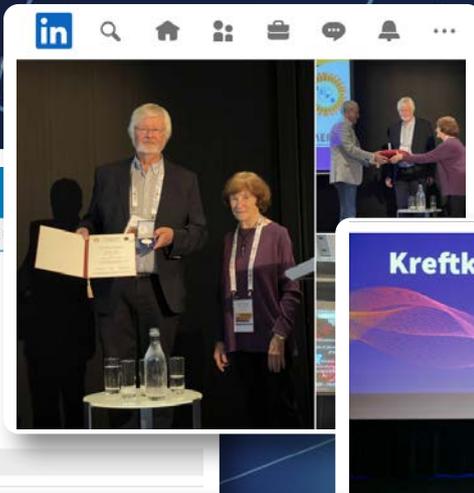
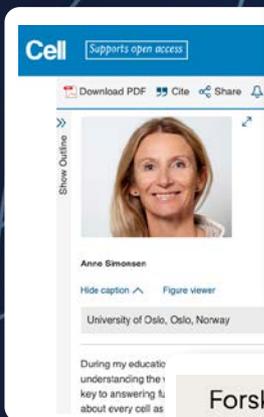
**557**

Original Social Media Postings#



**206**

Scientific talks, nationally



**197**

Scientific talks, internationally



**45**

Scientific & popular meetings



**78**

National media\*



\*: talks, interviews, newspaper correspondence, viewpoints and debate articles on popular science and research policy

#: original postings about science in social media (Twitter, LinkedIn etc)

# Publications

## Publications (articles) published in 2024 from OUS - Institute for Cancer Research

Adnan Awad S, Dufva O, Klievink J, Karjalainen E, Ianevski A, Pietarinen P, Kim D, Potdar S, Wolf M, Lotfi K, **Aittokallio T**, Wennerberg K, Porkka K, Mustjoki S (2024)

**Integrated drug profiling and CRISPR screening identify BCR::ABL1-independent vulnerabilities in chronic myeloid leukemia**

Cell Rep Med, 5 (5), 101521

**Aittokallio T**, Fang EF (2024)  
**Editorial overview-Artificial intelligence methodologies in structural biology: Bridging the gap to medical applications**

Curr Opin Struct Biol, 87, 102862

Akdeniz BC, Frei O, Hagen E, Filiz TT, Karthikeyan S, Pasman J, Jangmo A, Bergstedt J, Shorter JR, Zetterberg R, Meijsen J, Sønderby IE, Buil A, Tesli M, Lu Y, Sullivan P, Andreassen OA, **Hovig E** (2024)

**COSGAP: Containerized Statistical Genetics Analysis Pipelines**

Bioinform Adv, 4 (1), vbae067

Akdeniz BC, Frei O, Shadrin A, Vetrov D, Kropotov D, **Hovig E**, Andreassen OA, Dale AM (2024)

**Finemap-MiXeR: A variational Bayesian approach for genetic finemapping**

PLoS Genet, 20 (8), e1011372

Akdeniz BC, Morris AH, **Møller P**, Andreassen O, **Hovig E**, **Dominguez-Valentin M** (2024)  
**Evaluation of a combined model of Polygenic Risk Score and mismatch repair genes in the association of colorectal cancer for Norwegian cohort**

Tumori, 3008916241303648 (in press)

Akshay A, Katoch M, Shekarchizadeh N, Abedi M, **Sharma A**, Burkhard FC, Adam RM, Monastyrskaya K, Gheinani AH (2024)

**Machine Learning Made Easy (MLme): a comprehensive toolkit for machine learning-driven data analysis**

Gigascience, 13

**Andresen NK, Røssevold AH**, Borgen E, Schirmer CB, Gilje B, Garred Ø, Lømo J, Stensland M, Nordgård O, Falk RS, Mathiesen RR, **Russnes HG, Kyte JA**, Naume B (2024)  
**Circulating tumor cells in metastatic breast cancer patients treated with immune checkpoint inhibitors - a biomarker analysis of the ALICE and ICON trials**

Mol Oncol (in press)

**Andresen NK, Røssevold AH**, Quaghebeur C, Gilje B, Boge B, Gombos A, Falk RS, Mathiesen RR, Julsrud L, Garred Ø, **Russnes HG, Lereim RR, Chauhan SK, Lingjærde OC, Dunn C**, Naume B, **Kyte JA** (2024)

**Ipilimumab and nivolumab combined with anthracycline-based chemotherapy in metastatic hormone receptor-positive breast cancer: a randomized phase 2b trial**

J Immunother Cancer, 12 (1)

Angulo JC, Larrinaga G, Lecumberri D, Iturregui AM, Solano-Iturri JD, Lawrie CH, Armesto M, Dorado JF, **Nunes-Xavier CE**, Pulido R, Manini C, López JI (2024)

**Predicting Survival of Metastatic Clear Cell Renal Cell Cancer Treated with VEGFR-TKI-Based Sequential Therapy**

Cancers (Basel), 16 (16)

**Ankill J, Zhao Z**, Tekpli X, **Kure EH**, Kristensen VN, Mathelier A, **Fleischer T** (2024)

**Integrative pan-cancer analysis reveals a common architecture of dysregulated transcriptional**

**networks characterized by loss of enhancer methylation**

PLoS Comput Biol, 20 (11), e1012565

Arner EN, Alzhanova D, Westcott JM, Hinz S, Tiron CE, Blø M, Mai A, Virtakoivu R, Phinney N, **Nord S**, Aguilera KY, Rizvi A, Toombs JE, Reese TC, Fey V, Micklem D, Gausdal G, Ivaska J, Lorens JB, Brekken RA (2024)

**AXL-TBK1 driven AKT3 activation promotes metastasis**

Sci Signal, 17 (867), eado6057

**Ask EH, Tschan-Plessl A, Hoel HJ**, Kolstad A, Holte H, **Malmberg KJ** (2024)

**MetaGate: Interactive analysis of high-dimensional cytometry data with metadata integration**

Patterns (N Y), 5 (7), 100989

**Bai B, Wise JF, Vodák D, Nakkén S, Sharma A, Blaker YN**, Brodtkorb M, **Hilden V**, Trøen G, Ren W, **Lorenz S**, Lawrence MS, **Myklebost O**, Kimby E, Pan-Hammarström Q, **Steen CB, Meza-Zepeda LA**, Beiske K, **Smeland EB, Hovig E, Lingjærde OC**, Holte H, **Myklebust JH** (2024)

**Multi-omics profiling of longitudinal samples reveals early genomic changes in follicular lymphoma**

Blood Cancer J, 14 (1), 147

Behsen AD, Holien T, Micci F, Rye M, Rasmussen JM, Andersen K, Hess ES, Børset M, Keats J, **Våtsveen TK**, Misund K (2024)

**Cell surface marker heterogeneity in human myeloma cell lines for modeling of disease and therapy**

Sci Rep, 14 (1), 28805

Ben Diouf O, Gilbert A, Bernay B, **Syljuåsen RG**, Tudor M, Temelie M, Savu DI, Soumboundou M, Sall C, Chevalier F (2024)

**Phospho-Proteomics Analysis of Early Response to X-Ray Irradi-**

**ation Reveals Molecular Mechanism Potentially Related to U251 Cell Radioresistance**  
Proteomes, 13 (1)

**Bischof K**, Cremaschi A, Er-oukhmanoff L, Landskron J, Flage-Larsen LL, Gade A, Bjørge L, **Urbanucci A**, **Taskén K** (2024)  
**Patient-derived acellular ascites fluid affects drug responses in ovarian cancer cell lines through the activation of key signalling pathways**  
Mol Oncol, 19 (1), 81-98

**Bischof K**, Holth A, Bassarova A, Davidson B (2024)  
**Expression of PRAME in high-grade serous carcinoma is associated with higher residual disease volume and Occludin expression**  
Pathol Res Pract, 266, 155787 (in press)

Bjørge E, **Fagereng GL**, **Russnes HG**, Smeland S, **Taskén K**, **Hel-land Å** (2024)  
**Acta Oncologica Nordic Precision Cancer Medicine Symposium 2023 - merging clinical research and standard healthcare**  
Acta Oncol, 63, 487-490

**Bogaard M**, **Strømme JM**, **Kidd SG**, **Johannessen B**, **Bakken AC**, **Lothe RA**, **Axcrona K**, **Skotheim RI**, **Axcrona U** (2024)  
**GRIN3A: A biomarker associated with a cribriform pattern and poor prognosis in prostate cancer**  
Neoplasia, 55, 101023

**Brativnyk A**, **Ankill J**, **Helland Å**, **Fleischer T** (2024)  
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**Oslo University Hospital  
The Norwegian Radium Hospital  
Institute for Cancer Research**

Ullernchausseen 70  
N-0379 Oslo  
Norway

P.O. BOX 4953 Nydalen  
N-0424 Oslo  
Norway

<http://ous-research.no/institute/>