



2017

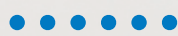


CRIG

CANCER RESEARCH INSTITUTE GHENT

ANNUAL REPORT

Chairman's Statement



With a year full of preparations starting in 2015, we kicked-off the Cancer Research Institute Ghent in October 2016. Hence, 2017 was the first complete operational year. Because we are proud of our accomplishments and we highly value transparency, CRIG's annual report 2017 was compiled for you.

We look back with great gratitude for all the support and enthusiasm we witnessed. This motivates us to put the bar higher. The patients deserve it. Together, we can increase the impact of cancer research in Ghent and beyond.

Finally, we want to express our sincerest gratitude for the substantial seed money CRIG received from the Foundation Fournier-Majoie, which enabled us to establish our institute.



prof. Jo Vandesompele
on behalf of the steering committee

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IMAGE CREDITS | Kimberly Verniers - Fred Debrock - UGent (Hilde Christiaens)
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CRIG in a nutshell



The Cancer Research Institute Ghent stimulates and accelerates cancer research in Ghent, and comprises over 350 researchers from more than 60 research groups at Ghent University, Ghent University Hospital and VIB-UGent.

CRIG also networks with other research institutes, foundations, industrial partners and society. CRIG's mission is to stimulate fundamental, translational and clinical cancer research across expertise domains, towards more effective treatments and better survival of cancer patients.



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CRIG stimulates and accelerates
cancer research in Ghent

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CRIG 2017 in numbers

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350⁺
researchers



3 partner
institutions



research
groups 60⁺



285
A1 publications



young investigator
proof-of-concept
projects granted (110K EUR)



9



29 PhD theses



FTE in
operational
team

2.5



>40K
donations



valorization project
funding granted
by UGent industrial
research fund



>720K



>8M external
funding



industrial
partnerships 8



3 patent
applications



industrial
partnering event 1



12 bilateral
contracts



CRIG unites 60+ research groups, 350+ members, from 3 partner institutions UGent, UZ and VIB-UGent ... 2.5 FTE in CRIG operational committee at end of 2017 ... 9 young investigator proof-of-concept projects have been awarded by CRIG for a total of 110 K EUR ... 285 A1 publications by CRIG group leaders have been published, 1 white paper on immune-oncology by CRIG-ION ... 29 PhD theses defended by CRIG doctoral fellows ... 18 cancer research projects have been funded to CRIG researchers by external organizations (over 8 M EUR) (personal mandates excluded) [Kom op tegen Kanker: 10 projects (4.13 M EUR) | FWO: 7 projects (3.14 M EUR) | FWO-SBO: 1 project (1.12 M EUR)] ... Valorization realized by the fully operational CRIG knowledge transfer committee: industrial network with 8 partners, 1 industrial partnering event, over 720 K EUR granted via UGent industrial research fund (IOF) projects, 12 bilateral contracts, 2 patents granted, 3 patent applications filed, 3 patent applications in evaluation (IDF), 1 technology licensed ... 2878 mentions of publications in social and other media (Altmetrics data) ... Over 40 K EUR donations received

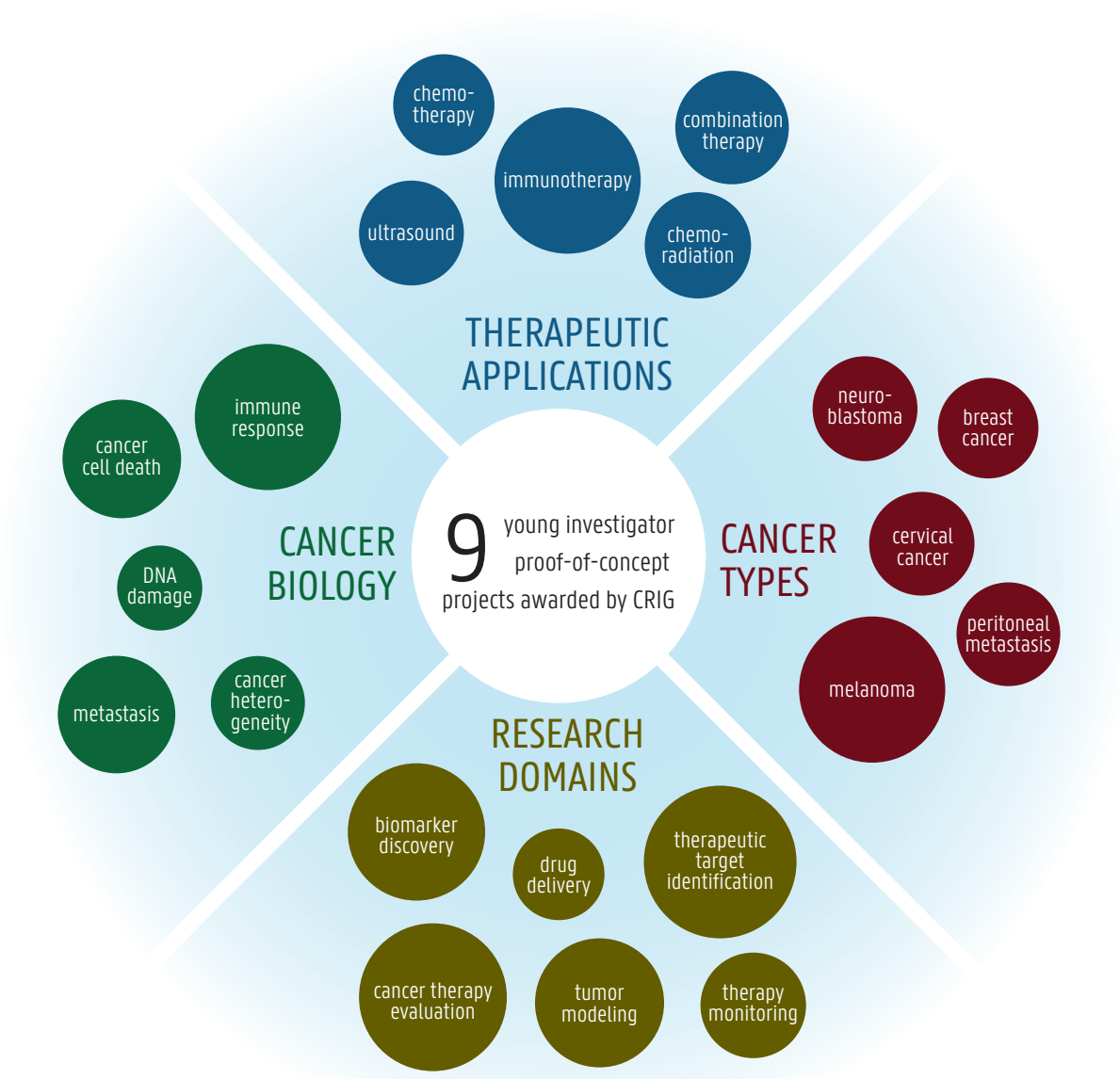
Achievements in 2017



Supporting innovative research projects by young investigators.

CRIG launched young investigator proof-of-concept (YIPOC) projects to actively support innovative cancer research at CRIG. The funding allocated for these projects is co-financed by CRIG and by vzw Kinderkankerfonds, via a strategic partnership with CRIG. In 2017, CRIG awarded 9 projects, for a total of 110 000 EUR.

With this funding, the awarded postdoctoral researchers are able to generate proof-of-concept data to increase the success rate of external grant applications. The outcome of the finalized projects will be reported, and successful outcome in follow-up projects and novel collaborations will be tracked to demonstrate the leverage effect of this initiative.



YIPOC AWARDED PROJECTS



dr. Sandy Adjemian Catani



Identification of tumor-specific markers and infiltrating immune cells during cancer cell death



dr. Elly Devlieghere



In vivo drug penetration evaluation of heterocellular 3D Scaffolds as biomimetic of peritoneal metastasis model



dr. Heleen Dewitte



Exploring immune activation by high-intensity focused ultrasound (HIFU): is there a link with immunogenic cell death?



dr. Kaat Durinck



Synergistic targeting of a FOXM1-driven DNA damage response in neuroblastoma



dr. An Hendrix



Do cancer cells fire ARMMs to foster invasion and metastasis?



dr. Lutz Nuhn



Engineering the tumor draining lymph nodes with immune-modulating nanoparticles



dr. Joni Van der Meulen



Targeted sequencing of circulating tumor DNA for therapy monitoring in metastatic melanoma



dr. Niels Vandamme



Shaping heterogeneity of melanocytes and melanomas using single cell RNA sequencing



dr. Katrien Vandecasteele



Evaluation of radiation induced cell death modalities after chemoradiation for locally advanced cervical cancer and correlation with tumor infiltrating lymphocytes and outcome



Mapping the cancer research landscape and available expertise

CRIG maintains a permanent inventory and stimulates sharing of all available technologies, platforms and cancer-related know-how. In 2017, the CRIG website was extended with an intranet section that is available for our members and partners to search for expertise, platforms, PhD defenses, granted research projects, publications, technology offers ...

Over 100 intranet pages were created, and with much more to come, enabling our researchers and partners to find complementary expertise, to discover novel technologies and platforms introduced at CRIG labs, and to start new collaborations.

CRIG members and partners can access the CRIG intranet via:
<https://www.crig.ugent.be/en/user/login>

Concerning the available expertise on immuno-oncology and immunotherapy, the Immuno-Oncology Network (ION) Ghent - affiliated with CRIG - maps and connects the growing clinical and research expertise and positions Ghent as a major player in this increasingly competitive domain. ION established a multidisciplinary physician task force for the rapid management of immunotherapy-related side-effects, and initiated a holistic knowledge base (data and samples) on safety issues related to immunotherapy. In May 2017, CRIG and ION contributed - as only academic partner - to the Biovox white paper on immuno-oncology, summarizing and showcasing our expertise to the broad stakeholder community in life sciences.

Biovox white paper on immuno-oncology:
<https://biovox.eu/white-papers/detail/cancer-immunotherapy>.

Providing education for cancer researchers

During the academic year 2016-2017, a new program called 'Major in Cancer' was introduced within the Master of Science in Biomedical Sciences at Ghent University. Various CRIG group leaders are lecturers, under the coordination by prof. Olivier De Wever (CRIG steering committee member).

CRIG further aims to support the advanced education of young cancer researchers and specialists by organizing and stimulating participation in training sessions, workshops and symposia.



CRIG's [OncoPoint](#) is a yearly forum for cross-fertilization of cancer research at UGent, UZ Gent and VIB-UGent. On March 15, more than 160 researchers attended the 5th edition of the OncoPoint symposium.



CRIG organizes for the first time a [Doctoral Schools specialist course](#) on Cancer. The program is targeted to Ghent University doctoral cancer researchers, covers various modules and topics, and will start in the first half of 2018. More than 20 experts from CRIG will lecture in this course.



In collaboration with its partner SGS, CRIG organized a workshop on 'early phase drug development', for (senior) CRIG researchers (Nov 30).



Finally, CRIG [featured, promoted and encouraged to participate](#) in more than 30 symposia, workshops, seminars and other educational events that were organized by individual CRIG research groups or partner organizations.



Valorizing and partnering with industry

The CRIG knowledge transfer committee, consisting of business developers from 3 Ghent University Industrial Research Fund (IOF) consortia (Biomarked, DISCOVERe, ChemTech), UZ (Bimetra) and VIB, and supported by a dedicated CRIG project manager, aims to maximize valorization of cancer research.

In 2017, partnerships were established between CRIG and 8 industrial companies active in life sciences with the aim to maximize collaborations between academic cancer research laboratories and industry. On October 27, CRIG organized its first industrial partnering event to further foster interaction between academic and industrial stakeholders in oncology. The event attracted 140 attendants including 55 representatives from 34 companies.

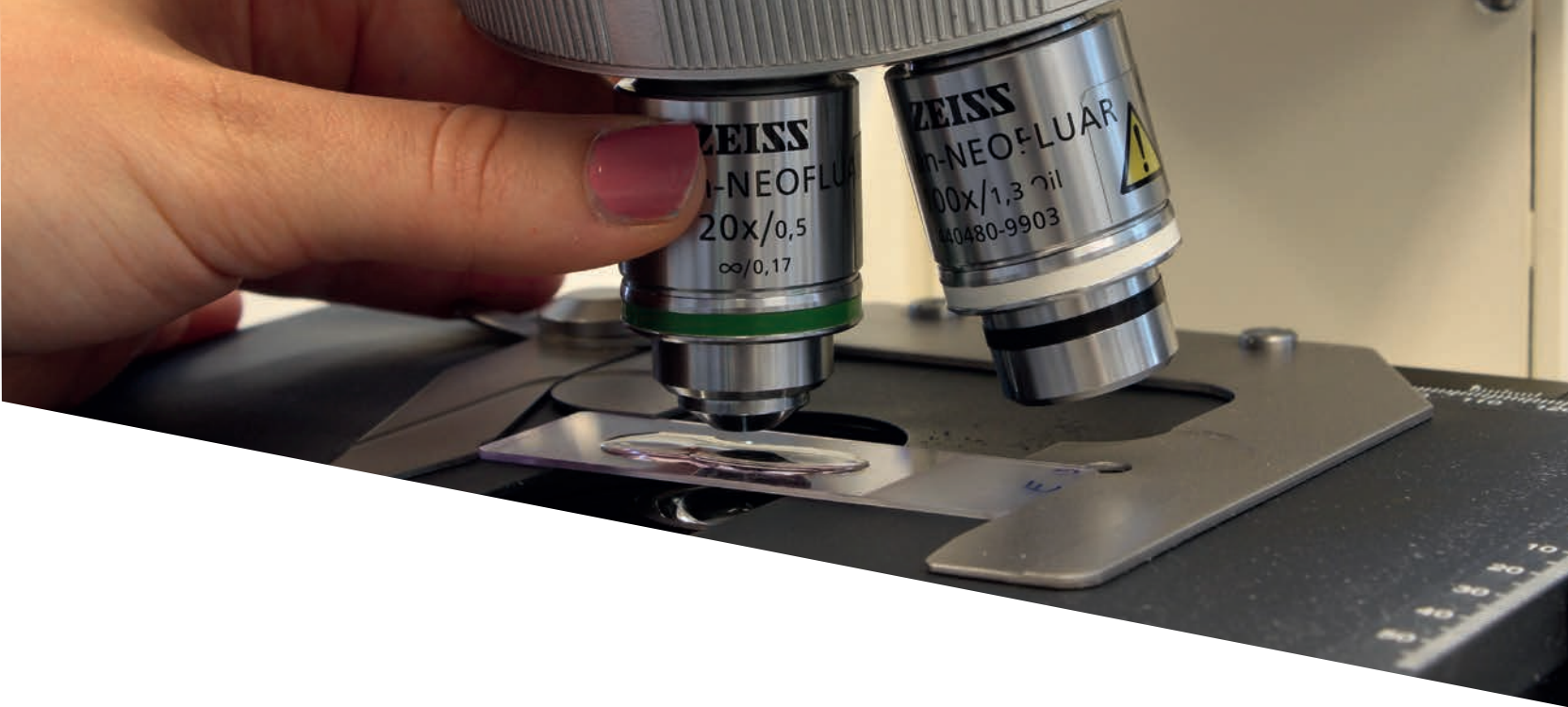
More than 720 K EUR was obtained from the Ghent University Industrial Research Fund (IOF) to bring valorisation projects further to the market:

- 1 Stepstone project (on anti-invasive cancer therapy)
- 3 Advanced projects - 1 project focused on diagnostics and 2 projects focused on therapeutics (of which one spin-off project and one project towards licensing)
- 1 ConcepTT project (on non-invasive diagnostic fingerprinting)
- 1 Leverage project to support the CRIG business unit for valorization of cancer projects and building the industrial network

In 2017, 12 new bilateral contracts were realized, 2 patents were granted, 3 patents were filed and 3 patent applications are in evaluation (IDF) for filing. The VIB partner licensed a glycoprotein based blood test for chronic liver disease developed by the lab of CRIG group leader prof. Nico Callewaert and validated in collaboration with the lab of CRIG group leader prof. Hans Van Vlierberghe (read more via <http://bit.ly/2pF12IT>).



“CRIG organized its first industrial partnering event to further foster interaction between academic and industrial stakeholders in oncology”



Installing and sharing research infrastructure

Sharing expertise and equipment across institutions and disciplines drives innovative and efficient research. In 2017, several complementary state-of-the-art platforms were installed to study (single) cancer cells within CRIG (financed via a 1.5 M EUR grant by the Foundation against Cancer that was obtained earlier). Via strategic partnership between CRIG and VIB and co-investments by CRIG, VIB and Ghent University, a novel core facility was launched - the Centre for Bioassay Development and Screening (C-BIOS) – which supports early-stage drug/agro discovery. In addition, CRIG and VIB co-invested in novel equipment for (cancer) proteomics screening, installed in the VIB Proteomics Core (<https://corefacilities.vib.be/pec>) which is available for cancer research projects at CRIG.

The Centre for Bioassay Development and Screening (C-BIOS) unites expertise and research infrastructure of VIB, Ghent University and CRIG. It provides a centralized platform to efficiently support assay development and screening for the broad Life Sciences research community, including cancer researchers.

C-BIOS is embedded in the VIB Screening Core (<https://corefacilities.vib.be/csf>).



Outreach to the patient and the general public

CRIG wants to provide relevant communication to the public about cancer and the latest breakthroughs in cancer research. In 2017, CRIG organized and participated in different events to communicate and interact with patients and the general public about cancer, cancer research and therapies.

SYMPOSIUM 21.10.17

'Worden alle kankers behandelbaar? Van onderzoek tot hoop'

This symposium (in Dutch) was organized by CRIG, Beautiful after Breast Cancer, vzw Stop Darmkanker, and Biovox. General information on cancer, and the latest breakthroughs and trends in cancer research and treatment were discussed (in layman's terms). More than 300 patients, professionals and researchers, students, and other interested people attended.

WORKSHOP FOR CHILDREN 8.10.2017 & 26.11.2017

'Kanker behandelen: (g)een kinderspel'

CRIG organized a workshop for children at the 200 years UGent festival on October 8th. The basic concepts of cancer and cancer treatment were explained to small groups. Children were able to learn interactively about cancer by discovering research lab items, seeing cancer cells through a microscope and playing games that help understanding how different treatment options work. The workshop was also run at the Science Day (Dag van de Wetenschap) on November 26th at Technopolis (Mechelen).



EXHIBITION STAND 22.10.2017

The link between food and cancer

CRIG participated at the VIB Biotechdag with an interactive exhibition stand. The team explained facts about carcinogenic foods and the importance of a healthy diet, and discussed questions of many of the interested visitors (more than 4000 people visited the VIB Biotechdag).

RUNNING AGAINST CANCER 22.04.2017

Participation at 'Levensloop'

CRIG teamed up with more than 120 enthusiastic runners for 'Levensloop', an initiative by the Foundation against Cancer ('Stichting tegen Kanker') focusing on solidarity and fundraising in the battle against cancer. With a CRIG stand on site, CRIG raised almost 3000 EUR, which was fully remitted to the Foundation against Cancer.



LAUNCH 8.10.2017

'Immuno-T' : a motion comic to explain immunotherapy

In the context of the 200 years UGent festival, prof. Tessa Kerre (CRIG and ION steering committee member) launched 'Immuno-T'. This motion comic was developed to inform patients and their relatives about cancer and how it can be combatted by immunotherapy. For 2018, it is planned to extend the motion comic with other treatment options, and make it available for the broader public via a dedicated website: <http://Immuno-T.inmotion.care>

INFO SESSION 17.10.2017

Immunotherapy for general practitioners

The Immuno-Oncology Network (ION) Ghent organized an evening program for general practitioners on immunotherapeutic strategies in different cancer types. An overview on the state-of-the-art in clinical practice, as well as specific adverse effects and future perspectives of immunotherapy were discussed by the ION experts.

EDUCATIONAL LECTURE FOR CHILDREN 16.11.2017

Wat is kanker?

In a visually attractive and interactive lecture, some burning questions and concepts on cancer were explained to children, such as 'How can we prevent cancer?', 'Is cancer contagious?', 'Why do people get sick by the medicines that should cure them?', ... The two readings, lectured by dr. Hetty Helsmoortel (CRIG member), were tailored to respectively 150 children aged 10-12 and 165 children aged 6-9, at the school 'De Wassenaard' (Varsenare).





CRIG management

CRIG management consists of 3 committees in close contact with each other, to translate CRIG's mission into concrete action points.

CRIG STEERING COMMITTEE

| | |
|------------------------------------|--------------------------|
| UGent • medicine & health sciences | prof. Jo Vandesompele |
| | prof. Tessa Kerre |
| | prof. Olivier De Wever |
| UGent • sciences | prof. Geert Berx |
| UGent • pharmaceutical sciences | prof. Stefaan De Smedt |
| UGent • veterinary medicine | prof. Niek Sanders |
| UZ delegate | prof. Lieve Brochez |
| VIB delegate | prof. Peter Vandenabeele |

CRIG OPERATIONAL COMMITTEE

| | |
|---|------------------------|
| Coordinator | dr. Pieter Rondou |
| Project manager | dr. Katrien Vanheusden |
| Project advisor translational cancer research Bimetra | dr. Joke Tommelein |
| Administrative assistant | An Rose |

KNOWLEDGE TRANSFER COMMITTEE

| | |
|---------|------------------------|
| UGent | dr. Daisy Flamez |
| | dr. An Van Den Bulcke |
| | dr. Dominic De Groote |
| | dr. Katrien Vanheusden |
| VIB | dr. Jan Staelens |
| UZ Gent | prof. Sofie Bekaert |
| | dr. Lieve Nuytinck |



The steering committee, consisting of 8 elected CRIG group leaders is responsible for the strategic and financial plan, and monitors and streamlines all CRIG related initiatives. The steering committee and its chairman directly supervises the operational committee



The CRIG knowledge transfer committee supports CRIG researchers and their partners in setting up and managing collaborative innovation projects in oncology, and assists in intellectual property rights management, business development, R&D partnering, licensing & venturing and strategic research funding.



The operational committee is responsible for the daily management and the implementation of the strategic plan, such as the coordination and organization of CRIG events, follow up of cancer research activities and initiation of new projects within CRIG, as well as collaboration and communication with different stakeholders.



Financials

INCOME

| | |
|----------------------------|--|
| vzw kinderkankerfonds | 50 000 EUR (to support young investigator proof-of-concept projects) |
| donations | 40 225 EUR (*) |
| industrial partnerships | 14 529 EUR |
| sponsoring for CRIG events | 8 675 EUR |
| lecturing fee | 200 EUR |

EXPENSES

| | |
|--|-----------------|
| young investigator proof-of-concept grants | 110 100 EUR |
| website, IT, hardware, office | 14 583 EUR |
| organization of meetings, symposia, events | 9 819 EUR |
| personnel | 90 148 EUR (**) |

(*) all donations will be integrally used for cancer research
(**) CRIG personnel was co-financed by 2 granted projects: (1) a UGent Industrial Research Fund (IOF) leverage project was granted to the CRIG business unit to co-finance (for 50%) the salary of the project manager (project duration 2 years, started Oct 2016); (2) a UGent project in the context of a university-wide expertise center was granted to finance the CRIG coordinator (full-time) for 2 years (started July 2017)



www.crig.ugent.be



follow us @crighent

In 2017, CRIG received more than 40 000 EUR donations. We would like to cordially thank all our supporters!

You can **donate** to CRIG (with possible tax reduction) via transfer on "Fondsenwerving UGent" **IBAN: BE26 3900 9658 0329** (BIC: BBRUBEBB) with reference "CRIG". More information and possible ways to support cancer research at CRIG: <https://www.crig.ugent.be/en/donate>

We wish to explicitly state that all donations will be used to the full extent to support new cancer research projects by CRIG researchers. Finally, we also would like to thank our partners and sponsors for financial support that enabled us to realize CRIG's objectives in 2017.