dkfz.

GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION

MICHAEL BAUMANN
Chairman and Scientific Director

URSULA WEYRICH
Administrative Director

60 YEARS OF RESEARCH FOR A LIFE WITHOUT CANCER

Cancer is an extremely complex disease. Innumerable features distinguish a cancerous tumor from healthy tissue. Thousands of genomic mutations and aberrant epigenetic labels at the level of the cancer genome promote aggressive tumor growth, and no two tumors are alike. Yet not only cancer differs from one individual to the next – so does the body's immune system fighting the tumor cells.

Scientists at the German Cancer Research Center (DKFZ) are working to decode this complexity step by step, using their findings to benefit patients. They are developing active substances that target carcinogenic cell mutations and are adapting treatments to the individual patient's disease. Cancer suppresses the immune system, so they are seeking ways of activating it. They are exploring new procedures to gain a picture of the tumor's aggressiveness and are targeting radiation therapy to achieve millimeter precision. And they are studying how each individual can minimize their cancer risk.

Cancer continues to raise countless questions, however. DKFZ scientists are seeking answers as they engage in basic research at the highest international level. In interdisciplinary teams networked with the best partners, they are constantly exploring how their research findings can improve cancer medicine and help patients.

At the DKFZ, our aim is to ensure that fewer people develop cancer and that cancer can be cured or at least treated so effectively that patients can live and grow old with their disease while enjoying a good quality of life.

60th ANNIVERSARY OF THE GERMAN CANCER RESEARCH CENTER

—

January 28, 1964: The government of Baden-Württemberg establishes the German Cancer Research Center foundation.

—

October 31, 1964: Inauguration of the first DKFZ building (INF 502)


Can AI improve early cancer detection?
How do tumors outsmart the immune system?
Which lifestyle protects against cancer?
dktz.


How do genetic mutations cause cancer?
How can we prevent therapy resistance?


dkfz.
How do metastases develop?
What does the tumor genome reveal?

DKFZ RESEARCH PROGRAMS

The approximately one hundred scientific divisions, clinical cooperation units and junior research groups are organized in five research programs. What scientific challenges do the scientists at the DKFZ face? Which questions do they want to answer with their research?

RESEARCH PROGRAM A

Cell and Tumor Biology

Are cancer stem cells the origin of metastases?

—

How does cancer spread through the bloodstream?

—

How does resistance to therapy arise and how can it be prevented?

—

How can cancer cells adapt their metabolism?

—

Which molecular signals control the development of cells and tissues? How do false signals lead to cancer?

—

How does epigenetics influence aging and carcinogenesis?

16 CORE FACILITIES support DKFZ researchers. The core facilities provide services and scientific know-how, pool resources and thus increase the effectiveness of the entire research center.

RESEARCH PROGRAM B

Functional and Structural Genomics

Which genetic defects characterize tumors?

—

Which mutations drive cancer growth and are targets for precision oncology?

—

How can the huge amounts of data generated by genome analysis be evaluated?

—

How can tumor genome data be translated into personalized cancer therapies?

—

Can cancer be detected in the blood?

—

Can AI and algorithms describe the evolution of tumors?

RESEARCH PROGRAM C

Cancer risk factors and prevention

What type of behavior increases the risk of cancer, and which lifestyle is protective?

—

In which types of cancer do hereditary factors play a role, which genes are responsible?

—

Can early detection be adapted to personal cancer risks?

—

What factors affect cancer survival? Do place of residence and education matter?

—

What are the long-term physical, social and economic effects of cancer?

RESEARCH PROGRAM D

Immunology, Infection and Cancer

How do tumors outsmart the immune system?

—

Why don't immunotherapies help all patients?

—

How could cellular immunotherapies be improved?

—

How do chronic inflammations promote cancer development?

—

What role do bacteria play in the development of cancer?

—

Is it possible to develop a vaccine against brain tumors?

—

Can mRNA vaccines help fighting cancer?

RESEARCH PROGRAM E

Imaging and Radiooncology

How can imaging techniques help to better detect tumors?

—

Can imaging techniques visualize the functional properties of a tumor?

—

Can AI improve the evaluation of medical images?

—

How can the radiation dose be targeted precisely to the tumor volume?

—

How can radioactive agents be directed specifically to cancer cells?

—

Can surgical procedures be supported by data-driven methods?

—

Can robots and "smart technologies" improve cancer therapy?

OUR SUPPORTERS

The DKFZ's work is supported by a large number of donations, both large and small. We are extremely grateful to each and every one of our supporters. They all help us work toward our goal: to carry out research for a life without cancer.

The money we receive from our large-scale donors makes a particular difference. It allows us to recruit talented new researchers and establish branches of research, carry out construction projects, and set up training programs for early-career researchers.

Our most generous supporters include the HECTOR FOUNDATION, the DIETMAR HOPP FOUNDATION, the DIETER MORSZECK FOUNDATION, and BERNHARD SCHADEBERG.

ERC GRANTS

DKFZ researchers are very successful in acquiring prestigous funding from the European Research Council.

2024

STARTING GRANT: Jens Puschhof
CONSOLIDATOR GRANT: Ana Banito, Aurélie Ernst ADVANCED GRANT: Hannah Monyer, Michael Platten

—

2023

STARTING GRANT: Angelika Feldmann, Felix Hartmann, Marc Zuckermann
CONSOLIDATOR GRANT: Thomas Grünewald

—

2022

STARTING GRANT: Chong Sun
CONSOLIDATOR GRANT: Florian Büttner (DKTK Frankfurt) SYNERGY GRANT: Ana Martin-Villalba PROOF OF CONCEPT GRANT: Nina Papavasiliou

—

2021

STARTING GRANT: Tian Qiu (transferred to the DKFZ) CONSOLIDATOR GRANT: Christiane Opitz, Guoliang Cui
ADVANCED GRANT: Andreas Trumpp

COOPERATIONS AND ALLIANCES

The DKFZ is a member of the Helmholtz Association, Germany's largest scientific organization with more than 45,000 employees in 18 research centers. Together with partners from science, industry and society, we pursue numerous joint projects and alliances. A selection:

HEALTH + LIFE SCIENCE ALLIANCE HEIDELBERG MANNHEIM

The Health + Life Science Alliance Heidelberg Mannheim combines life sciences and medicine in the Rhine-Neckar region to promote innovative research, patient care and the healthcare industry. The Alliance is supported by the state of Baden-Württemberg.

DKFZ-HECTOR CANCER INSTITUTE

The DKFZ-Hector Cancer Institute at the University Medical Center Mannheim is a collaboration between the DKFZ and the University Medical Center Mannheim and is funded by the Hector Foundation II. It offers an excellent environment for multidisciplinary, oncological patient care, research and teaching at the highest level.

HI-STEM

The Institute for Stem Cell Technology and Experimental Medicine, a public-private partnership jointly founded by the DKFZ and the Dietmar Hopp Foundation, focuses on cancer stem cell research.

HI-TRON MAINZ

At the Helmholtz Institute HI-TRON Mainz, the DKFZ is collaborating with the Research Institute for Translational Oncology at the University Medical Center of the Johannes Gutenberg University Mainz (TRON gGMBH). The aim of the partnership is to develop effective immunotherapies and identify new biomarkers for the efficacy of treatments.

DKFZ-BEIERSDORF JOINT INNOVATION LAB

In the Joint Innovation Lab run jointly by Beiersdorf and the DKFZ, researchers are taking a close look at the "epigenetic clock" of skin cells with the aim of reversing biological aging and thus also reducing the risk of skin cancer.

THE PATIENT ADVISORY COUNCIL FOR CANCER RESEARCH
founded in 2018, advises the DKFZ and the DKTK in better integrating the patient perspective into the research strategy.

OUR TRANSLATIONAL NETWORK

The DKFZ is one of the most important cancer research institutions in the world and is a leader in the field of basic research and early translational research in particular. To enable research results to be taken up more quickly in clinical practice, we cooperate within a network of excellent partners from university hospitals and other outstanding research institutions.

Our goal is to ensure that our research results and developments are examined without delay in terms of their relevance to the clinical setting and can be developed further, thus benefiting patients as quickly as possible.

To do so, we draw on a wide range of expertise, highly specialized, networked infrastructure, and very close cooperation between basic researchers and physicians working in a clinical setting throughout Germany.

Harnessing our translational networks and partners in Germany, we work to optimize processes and to leverage the results for patients faster. Conversely, our translational network benefits from the opportunities available at the DKFZ. Each of the sites is operated jointly by the DKFZ and partners in the relevant academic medical institutions.

NATIONAL CENTER FOR TUMOR DISEASES (NCT, 6 Sites)

GERMAN CANCER CONSORTIUM (DKTK, 8 Sites)

HOPP CHILDREN'S CANCER CENTER HEIDELBERG (KiTZ)

HELMHOLTZ INSTITUTE FOR TRANSLATIONAL ONCOLOGY (HI-TRON) Mainz – a Helmholtz Institute of the DKFZ

DKFZ-HECTOR CANCER INSTITUTE at the University Medical Center Mannheim

NATIONAL CANCER PREVENTION CENTER (together with German Cancer Aid)

The DKFZ's **CLINICAL TRIAL OFFICE** supports scientists in conducting clinical trials (investigator initiated trials, IITs) sponsored by the DKFZ.


Is it possible to vaccinate against cancer?
How to translate genomic data into personalized therapies?

NATIONAL CENTER FOR TUMOR DISEASES (NCT)

The NCT is a long-term partnership between the German Cancer Research Center (DKFZ), excellent partners at university hospitals, and other outstanding research partners at various sites in Germany.

The NCT combines knowledge and pools forces from research and clinical practice with the experience of people affected by cancer to create new opportunities for patients.

At the NCT sites, we combine science and practice, conducting joint research to develop better methods for diagnosing and treating cancer. Patients are research partners on an equal footing at the NCT. Their concerns are at the heart of the NCT's work and are part of the joint structures.

The aim of everyone at the NCT is to set up studies for testing innovations in German cancer research faster and safely, the goal being to treat cancer more successfully while maintaining a high quality of life for patients. At the same time, the NCT gives all cancer patients quick access to new clinical trials and innovative treatment approaches.

By providing intensive training for patient representatives and for scientific and medical specialists, the NCT is investing in the future of cancer research. In collaboration with pharmaceuticals and biotech companies, the NCT sees itself as a trailblazer in the development of new treatments and diagnostic methods in Germany.

The NCT is funded by the German Federal Ministry of Education and Research as part of the National Decade Against Cancer and by the German federal states involved.

SITES
–
BERLIN, DRESDEN, HEIDELBERG, SOUTHWEST (Tübingen/Stuttgart – Ulm), **WERA** (Würzburg with Erlangen, Regensburg, and Augsburg), **WEST** (Essen/Cologne)

THE GERMAN CANCER CONSORTIUM

Successful cancer research can only reach patients if physicians and cancer researchers work hand in hand. As the core center of the German Cancer Consortium, or the DKTK for short, the DKFZ cooperates with research institutes and university hospitals in translation centers at eight different sites.

The DKTK promotes interdisciplinary cancer research. It conducts preclinical translational research projects to study how results from basic research can be used for the prevention, early detection, diagnosis, and personalized treatment of cancer.

The aim is to speed up the transfer of new diagnostic and therapeutic approaches to clinical practice.

To do so, the DKTK develops infrastructure, platforms, and initiatives across all its sites, making them available to all the partners for joint use.

DKFZ HEIDELBERG *(core center)*
—
DKTK BERLIN
—
DKTK DRESDEN
—
DKTK ESSEN/DÜSSELDORF
—
DKTK FRANKFURT/MAINZ
—
DKTK FREIBURG
—
DKTK HEIDELBERG
—
DKTK MÜNCHEN
—
DKTK TÜBINGEN

The **DKTK SCHOOL OF ONCOLOGY** promotes the training and professional development of medical scientists and clinician scientists in translational cancer research with interdisciplinary training programs and research infrastructures at the eight DKTK partner sites.

PATIENT CONTACT

–

→ **06221 568381**

–

→ **onkologischekinderambulanz@med.uni-heidelberg.de**

HOPP CHILDREN'S CANCER CENTER HEIDELBERG

The Hopp Children's Cancer Center Heidelberg (KiTZ) is a joint pediatric oncology institution run by the DKFZ, Heidelberg University Hospital and Heidelberg University. The main supporters of the KiTZ are the Dietmar Hopp Foundation and the ODWIN gGmbH of Gerda Tschira.

KiTZ is both a therapy and research center for oncological and hematological diseases in children and adolescents. Its aims to unravel the biology of childhood cancer and severe blood diseases and to integrate promising research approaches effectively into patient care.

At KiTZ, children with cancer, particularly those for whom there are no established treatments options, receive an individual treatment plan drawn up by an interdisciplinary team of experts. Many young patients can participate in clinical trials and thus gain access to new treatment options. The KiTZ is a role model for transferring research findings from the laboratory to clinical practice.

NATIONAL CANCER PREVENTION CENTER

The DKFZ and German Cancer Aid are establishing the National Cancer Prevention Center in Heidelberg as part of a strategic partnership. The center will combine prevention research, a prevention outpatient clinic (including for people taking part in prevention studies), and an information center for members of the public.

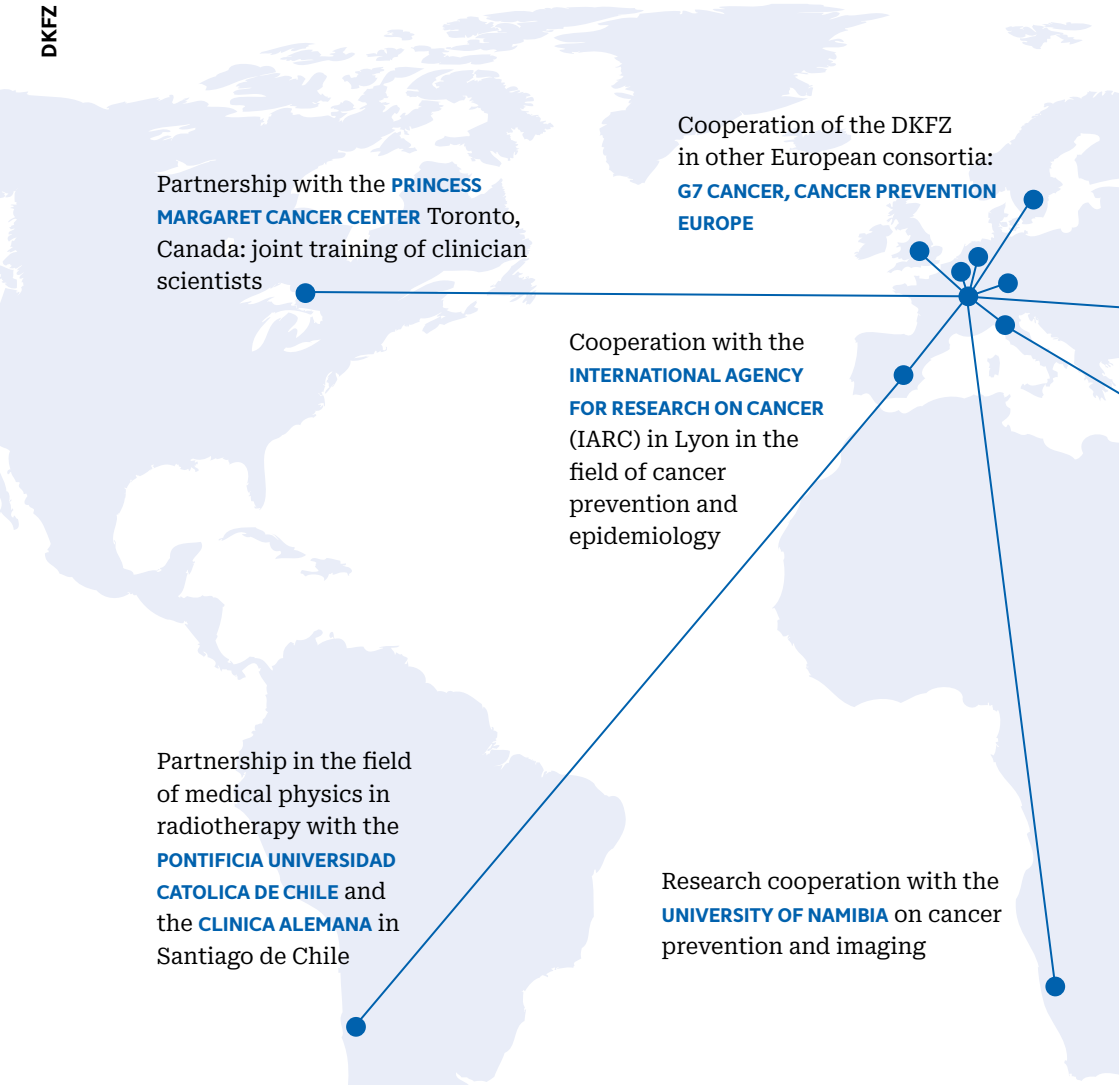
The National Cancer Prevention Center will combine all the key components under one roof – from basic research through to clinical trials, evidence-based advice for the general public, and training and continuing education for prevention experts and multipliers.

The extensive translational prevention research conducted by the DKFZ will be pooled here. Experts will develop evidence-based programs for prevention adapted to each individual's personal cancer risk; with support from further partners, they will also design campaigns to raise awareness about prevention across the country. Innovative digital systems such as prevention apps will be developed to reach new target groups.

This integrated approach will enable the population, the media, and policymakers to experience prevention research first hand and will help ensure that prevention research is finally given the priority that its great potential warrants.

CONTACT
PREVENTION OUTPATIENT CLINIC
–
→ **p.ambulanz@dkfz.de**

INTERNATIONAL COOPERATION — A SELECTION



CANCER CORE EUROPE The seven leading European cancer centers are intensifying cross-border collaboration between cancer research and cancer medicine. The partners are the DKFZ together with the NCT Heidelberg, the Gustave Roussy Cancer Campus (France), the Cambridge Cancer Center (UK), the Karolinska Institute (Sweden), the Netherlands Cancer Institute, the Vall d'Hebron Institute of Oncology (Spain) and the Istituto Nazionale dei Tumori (Italy).

Collaboration with the **TIANJIN MEDICAL UNIVERSITY CANCER INSTITUTE AND HOSPITAL** (Tianjin, China)

Research collaboration with the **KING HUSSEIN CANCER CENTER**, Jordan, to study genetic cancer predispositions

DKFZ-MOST-COOPERATION PROGRAM
For 49 years, the cooperation program between the DKFZ and the Israeli Ministry of Science and Technology (MOST) has been promoting scientific collaboration between researchers at the DKFZ and at academic institutions in Israel. So far, the program has supported 217 collaborative projects.

TRAINING AND CAREER DEVELOPMENT

The DKFZ attaches great importance to excellent and continuous training during all stages of the scientific career.

DKFZ researchers organize and supervise the Cancer Biology Major course as part of the Master's program **MOLECULAR BIOSCIENCES** held in English at the University of Heidelberg.

The **INTERNATIONAL PHD PROGRAM** coordinates the structured doctoral program for some 500 young scientists. In addition, inter-institutional, topic-specific graduate schools are located at the DKFZ, including the **CANCER PREVENTION GRADUATE SCHOOL** co-financed by German Cancer Aid.

Doctoral students at the **GERMAN-ISRAELI HELMHOLTZ RESEARCH SCHOOL IN CANCER BIOLOGY** benefit from the strengths of the DKFZ and the Weizmann Institute.

As part of the **INTERNATIONAL POSTDOC PROGRAM** and the **CLINICIAN SCIENTIST PROGRAM** funded by the Dieter Morszeck Foundation, highly talented young scientists and research-oriented physicians receive interdisciplinary training in high-profile cancer research projects.

At present, 70 trainees are being trained in five professions at the DKFZ, along with students from four different dual study programs.

The **DKFZ CAREER SERVICE** supports researchers in planning their professional future.

THE DKFZ'S LIFE SCIENCE LAB

–

Independent work on current research questions under the guidance of scientific mentors; weekend seminars and vacation academies – an offer for students from the 8th grade onwards.

0800 4203040
daily from 8 a.m. to 8 p.m.
–
krebsinformationsdienst@dkfz.de
–
krebsinformationsdienst.de

DO YOU HAVE QUESTIONS ABOUT CANCER? WE ARE HERE TO HELP.

For over 35 years, we have been providing scientifically proven, easy-to-understand and free information on cancer for cancer patients, their relatives, interested individuals and experts. The Cancer Information Service of the DKFZ is the point of contact for anyone seeking advice on cancer-related issues. We take time for your questions, whether you contact us by phone, email or during office hours in Heidelberg and Dresden.

We provide information tailored to your personal situation, help you to understand your diagnosis and support you in difficult decisions. We provide up-to-date news, background information and links on the internet. We invite discussion on Facebook.

Experts can access scientifically sound facts and sources from the Cancer Information Service, based on the best available evidence. The Cancer Information Service is a free service provided by the German Cancer Research Center, financed from public funds.

NEW: CHAT SERVICE

–

Our doctors are now also available to answer questions about cancer risks and prevention in a chat.

–

krebsinformationsdienst.de/chat.php

TIMELINE

28.01.1964 The Government of Baden-Württemberg establishes the German Cancer Research Center Foundation in Heidelberg **03.03.1964** Karl Heinrich Bauer is appointed Foundation Representative **31.10.1964** Inauguration of the first buildings (INF 502) **25.09.1972** Inauguration of the main building (INF 280) **28.09.1976** Contract for future 90:10 financing by the federal and state governments **28.06.1977** The DKFZ becomes a member of the German Research Foundation (DFG) **01.05.1986** Establishment of the Cancer Information Service (KID) **12.09.2001** The DKFZ becomes a member of the Helmholtz Association of German Research Centers **01.07.2004** Establishment of the National Center for Tumor Diseases (NCT) Heidelberg **07.12.2007** Establishment of the alliance between the DKFZ and the Center for Molecular Biology Heidelberg (ZMBH) **03.09.2008** Establishment of the Advisory Council **17.09.2008** Establishment of HI-STEM with the Dietmar Hopp Foundation **10.12.2008** Harald zur Hausen receives Nobel Prize in Medicine **29.10.2012** Establishment of the German Cancer Consortium (DKTK) **10.12.2014** Stefan Hell receives Nobel Prize in Chemistry **01.01.2015** Establishment of the NCT Dresden **23.11.2016** Establishment of the Hopp Children's Cancer Center KiTZ **01.08.2018** Establishment of HI-TRON **29.07.2019** Establishment of the DKFZ branch in Dresden **10.09.2019** Go-ahead for the National Cancer Prevention Center **17.09.2019** Inauguration of the Research Center for Imaging and Radiooncology **31.07.2020** Establishment of the DKFZ-Hector Cancer Institute at the University Medical Center Mannheim **02.02.2023** Expansion of the NCT to 6 sites **18.07.2023** Inauguration of the Dieter Morszeck Biorepository **31.10.2024** 60th anniversary of the DKFZ


What drives cancer in children?
How do epigenetic mutations cause cells to age and cancer to develop?

THE DKFZ IN FIGURES

The DKFZ's 2024 budget of EUR 426 million consists of grants from the federal government (BMBF) and the research ministries of the federal states (Baden-Württemberg, Berlin, Hesse, North Rhine-Westphalia, Rhineland-Palatinate and Saxony) totaling EUR 273 million. Project funding and other income: EUR 153 million.

3334 employees (excluding associate staff, as of 11/2023), including 1480 scientists, 541 PhD students and 73 trainees. In addition, 1023 associate staff members work at the DKFZ, of whom 352 are scientists, 275 are PhD students. 822 foreign employees (= 25 percent of the total staff) come from a total of 87 nations.

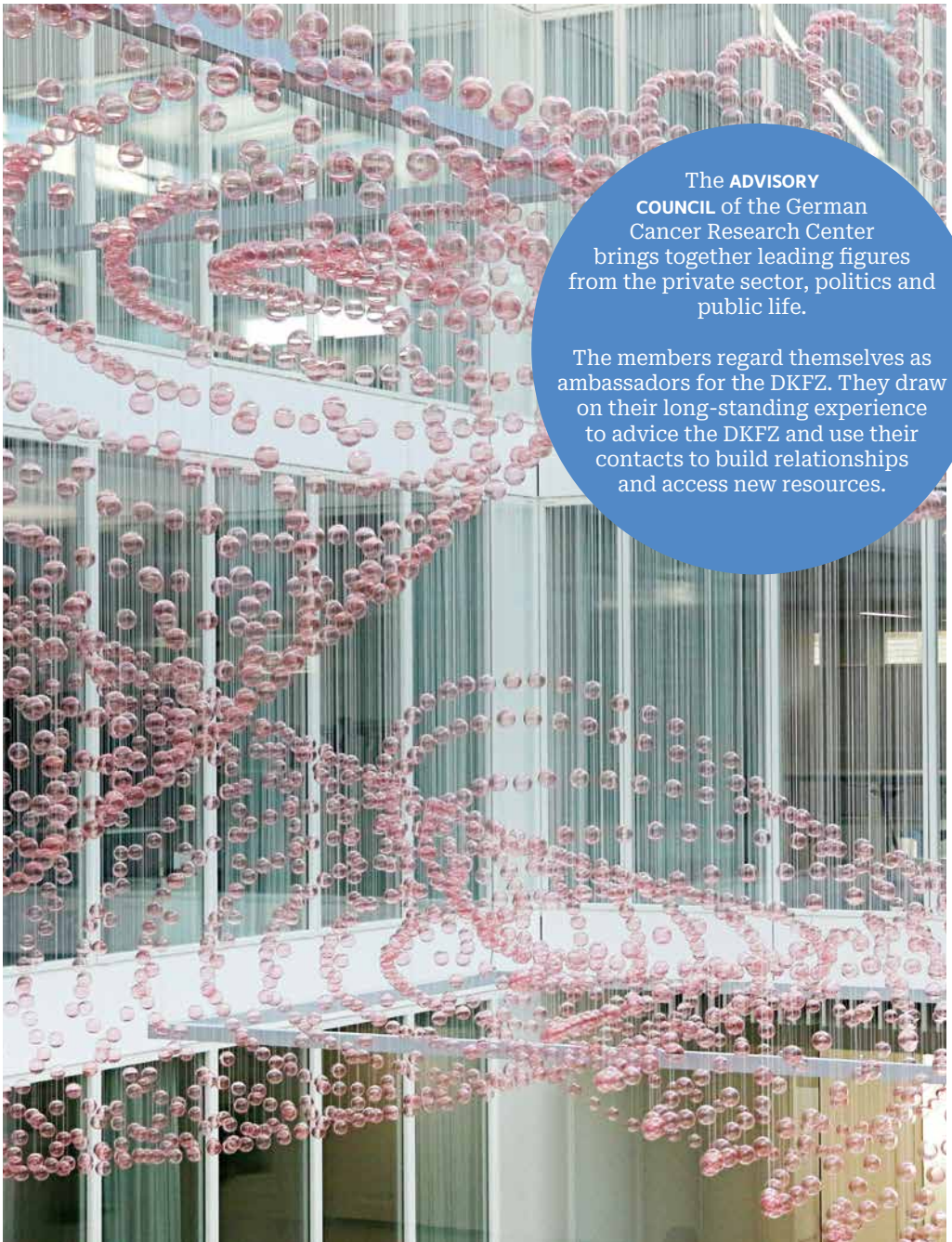
INNOVATION MANAGEMENT

–

As an interface between research and industry ***Innovation Management*** division aims to harness the innovation potential of research at the DKFZ for commercial purposes.

–

dkfz.de/de/techtrans/index.html



The **ADVISORY COUNCIL** of the German Cancer Research Center brings together leading figures from the private sector, politics and public life.

The members regard themselves as ambassadors for the DKFZ. They draw on their long-standing experience to advice the DKFZ and use their contacts to build relationships and access new resources.

Private Research Support
Phone: +49 6221 42-5445
spende@dkfz.de

Talk to us – we would like to have you on our side. We will take time to answer any questions you may have about your donation or will.

—

ACCOUNT FOR DONATIONS
Sparkasse Heidelberg
IBAN: DE98 6725 0020 0005 0000 50
BIC: SOLADES1HDB

PUBLISHED BY
German Cancer
Research Center

Strategic Communication
and Public Relations

Im Neuenheimer Feld 280
D-69120 Heidelberg
Phone: +49 6221 42-2854
presse@dkfz.de
www.dkfz.de

Heidelberg 2025

CONCEPT, TEXT AND EDITING
Sibylle Kohlstädt

DESIGN AND PRODUCTION
UNIT Werbeagentur GmbH

PRINTED BY
ZVD Kurt Döringer
GmbH & Co.KG, Heidelberg

PHOTO CREDITS
Title, p. 6, 16, 26, 31:
Tobias Schwerdt; p. 2 l.:
Uwe Anspach; p. 2 r., 33:
Jutta Jung; p. 4/5: Brigida
Gonzales; p. 8/9, 10/11, 15,
19, 34/35: Petra Arnold;
p. 13: Carina Kircher; p. 20:
Flugkraft; p. 23: Prostock-
Studio, Adobe Stock;
S. 28: Klaus Landry

dkfz.

GERMAN
CANCER RESEARCH CENTER
IN THE HELMHOLTZ ASSOCIATION