



Welcome to the January edition of Alumni Monthly!

This newsletter brings to you the DKFZ highlights of December 2018 and January 2019. Enjoy reading the news and please also consider our job openings, maybe for yourself, maybe for a talented colleague.

The November newsletter was sent to you more than once due to a technical problem. The flaws should be eliminated now and we apologize for the inconvenience. We are looking forward to your feedback to susanne.schunk@dkfz.de

Content

- » **News from the Press Office**
 - » **Highlight publications**
 - » **Upcoming event**
 - » **Job openings**
 - » **Alumni matters**
 - » **Stay connected**
-

News from the Press Office

Leibniz Prize for Hans-Reimer Rodewald

Hans-Reimer Rodewald from the German Cancer Research Center (DKFZ) has received the 2019 Gottfried Wilhelm Leibniz Prize, which is the most important research funding award in Germany. Rodewald's work focuses on the question of how various types of immune cells develop from stem cells and together form a functioning immune system. [read more](#)



Hans-Reimer Rodewald © Jutta Jung/DKFZ

High distinction for stem cell researcher Andreas Trumpp



Andreas Trumpp © Roman Jowanowitsch/DKFZ

This year's State Research Prize of Baden-Württemberg awarded for outstanding achievements in applied research goes to Andreas Trumpp from the DKFZ and the Heidelberg Institute for Stem Cell Technology and Experimental Medicine (HI-STEM).

Theresia Bauer, State Minister of Science, Research and the Arts, presented the award, which carries a monetary prize of €100.000, at a festive ceremony on December 10, 2018.

[read more](#)

Stefan Pfister received the HMLS Investor Award for his work in childhood cancer research

On December 12, 2018, Stefan Pfister, KITZ Director, Head of the Department of Pediatric Neuro-Oncology at the DKFZ and Senior Physician at Heidelberg University Hospital, and Jan Korb, Research Group Leader at the European Molecular Biology Laboratory (EMBL), received the HMLS Investor Award.

[read more in German](#)



The awardees Stefan Pfister (left) and Jan Korb (right) with Thomas Rausch, the spokesman for the initiative "Heidelberg Molecular Life Sciences" © Universität Heidelberg – KuM Foto: Philipp Rothe

ERC grant for Stefan Pfister: "We must further advance pediatric cancer research"



KITZ director Stefan Pfister has received an ERC Consolidator Grant. © KITZ

KITZ director Stefan Pfister, professor of pediatric neurooncology at the DKFZ and the Heidelberg University Hospital, succeeded in gaining one of the prestigious ERC Consolidator Grants for his project entitled "BRAIN-MATCH". The goal of BRAIN-MATCH is to characterize normal brain development using molecular-biological methods and to compare it with the development of brain cancer. Pfister and his team plan to use the results obtained as a basis for finding new approaches in the treatment of brain cancer

in children. The European Research Council (ERC) awards "Consolidator Grants" to support excellent scientists who are expanding their research activities. [read more](#)

Cancer research in Germany joins forces



The Chairmen of the first German Cancer Research Congress Frederik Wenz (German Cancer Society), Michael Baumann (German Cancer Research Center) and Gerd Nettekoven (German Cancer Aid) (left to right) with the Federal Minister of Education and Research Anja Karliczek. © Uwe Anspach/ DKFZ

Krebsforschungszentrum, DKFZ) jointly organize the 1st German Cancer Research Congress (GCRC). It is the first joint initiative of the "National Decade Against Cancer" campaign. [read more](#)

At the 1st German Cancer Research Congress, taking place on February 4 and 5 in Heidelberg, around 500 participants meet to exchange knowledge and ideas about what excellent research in Germany can contribute to the fight against the widespread disease of cancer. Anja Karliczek, Federal Minister of Education and Research, and Theresia Bauer, State Minister of Science, Research and the Arts, participated in the opening event on World Cancer Day.

The German Cancer Society (Deutsche Krebsgesellschaft), German Cancer Aid (Deutsche Krebshilfe) and the German Cancer Research Center (Deutsches

Start signal of the National Decade Against Cancer

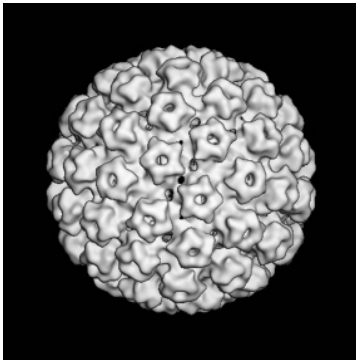
New research strategy launched against cancer

Preventing cancer as much as possible, improving chances of recovery through new therapies, increasing the lifetime and quality of those affected - these are the goals of the "National Decade Against Cancer". Today, the initiative was launched under the auspices of the Federal Ministry of Education and Research (BMBF). In a first step, the BMBF funds practice-changing clinical trials for the prevention, diagnosis and treatment of cancer. A corresponding funding announcement has been published today. For this purpose, up to 62 million euros will be made available within the framework of the Decade. Further initiatives follow. [read more in German](#)



from left to right: Federal Health Minister Jens Spahn, Anja Karliczek, Minister of Education and Research, and Michael Baumann, Chairman and Scientific Director of the German Cancer Research Center at the press conference on the launch of the "Decade against Cancer". © Grönefeld / DKFZ

Vaccination as a therapy: Experimental vaccine against cervical cancer successfully tested in mice

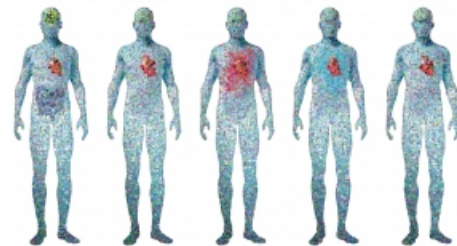


Computer-generated simulation of a HPV © DKFZ

Scientists from the DKFZ have developed an experimental vaccine to fight cervical cancer caused by human papillomaviruses (HPV). This has already been accomplished successfully in mice. Tumors regressed in half of the vaccinated animals. The scientists' goal is to develop a therapeutic vaccine for people who are already suffering from cancer or cancer precursors and, thus, no longer benefit from preventive vaccination. [read more](#)

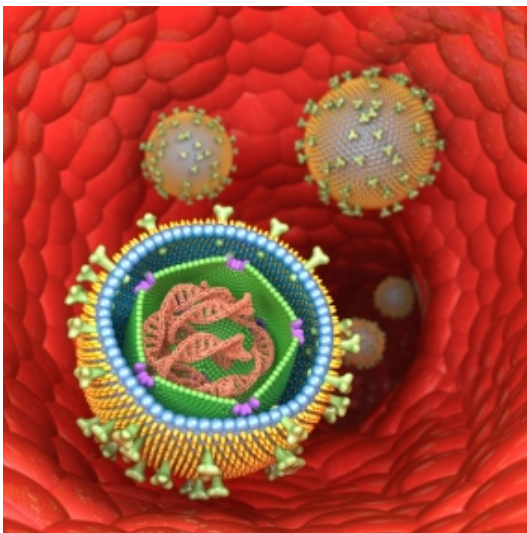
“Life Time” – European research for a healthier future

Our body's cells are constantly changing. But which of these changes are healthy developments and which lead to serious diseases? This is what LifeTime, a new transnational and interdisciplinary initiative of leading European researchers, aims to discover. The consortium is jointly coordinated by the Max Delbrück Center in Berlin and the Institut Curie in Paris, with the Helmholtz Association and the CNRS. Scientists from the DKFZ are also involved in the consortium. Life Time has now cleared an important hurdle: The consortium will be given one million euros and one year to develop a plan to embed its vision for a healthier future within the European research and innovation landscape. [read more](#)



© Spencer Phillips, EMBL-EBI

New vaccine strategy against Epstein Barr virus



Epstein Barr viruses in blood vessels © Adobe Stock/DKFZ

The Epstein Barr viruses (EBV) are very common and in most cases, an infection causes no harm. However, sometimes the outcome is a serious disease. There is no effective immunization protection against EBV so far, because the pathogen is very difficult to get hold of. Scientists from the DKFZ in Heidelberg have now developed a new strategy for developing a vaccine against EBV that will simultaneously prepare the immune system for different stages of the pathogen. In this way, the researchers are convinced to have made major progress towards developing a vaccine against EBV. [read more](#)

COMPASS: The guide to new therapies for children with cancer

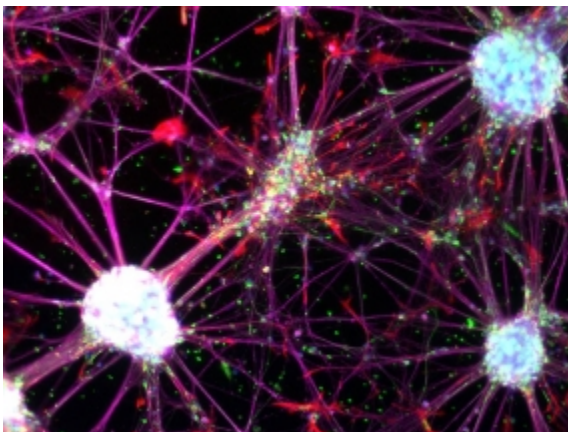
Through a targeted combination of molecular and microscopy-based techniques, researchers aim to identify new treatment approaches for children with cancer. The Hopp Children's Cancer Center Heidelberg (KiTZ) coordinates the project, which is funded by the European consortium ERA PerMed with 1.5 million euros and involves scientific institutions from France, the Netherlands, Finland and Hungary in addition to the KiTZ.

The Hopp Children's Tumor Center Heidelberg (KiTZ) is a joint institution of the German Cancer Research Center (DKFZ), the Heidelberg University Hospital (UKHD) and the University of Heidelberg (UniHD). [read more](#)



The COMPASS project aims to identify new ways of treating childhood cancers © Adobe Stock / Tobias Machhaus

An important step for regenerative medicine: Human blood cells can be directly reprogrammed into neural stem cells



© M.C. Thier/DKFZ

[more](#)

Scientists from the DKFZ and the stem cell institute HI-STEM in Heidelberg have succeeded for the first time in directly reprogramming human blood cells into a previously unknown type of neural stem cell. These induced stem cells are similar to those that occur during the early embryonic development of the central nervous system. They can be modified and multiplied indefinitely in the culture dish and can represent an important basis for the development of regenerative therapies. [read](#)

Computer Model to Predict Prostate Cancer Progression

An international team of cancer researchers from Germany and Denmark have used cancer patient data to develop a computer model that can predict the course of disease for prostate cancer. The model is currently being implemented at a prostate cancer clinic in Germany. The researchers have also found the enzyme that appears to trigger some of the first mutations in prostate cancer. [read more](#)



© Fotolia

The sleeping beauty among brain tumors

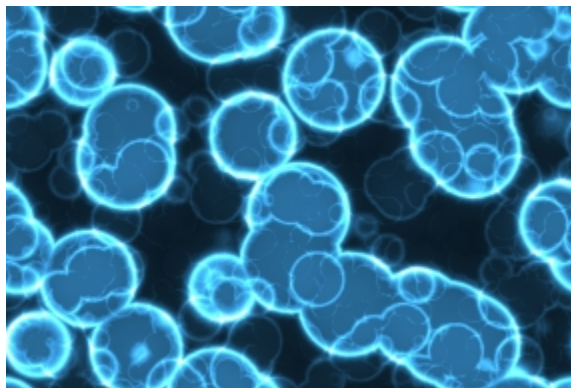


Pilocytic astrocytoma (PA) is a type of brain tumor common in childhood © KITZ

Scientists from the KITZ, together with two other teams from the German Cancer Association (DKTK) and researchers from the UK, have shown that a group of inflammatory messengers slows down or even stops the growth of certain brain tumor cells. This molecular mechanism could be the key to new therapeutic approaches. [read more](#)

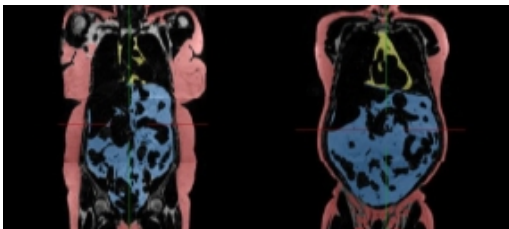
New Ways to Look at Protein-RNA Networks

For their vital tasks, all RNA molecules in our cells require proteins as binding partners. Scientists at the DKFZ and colleagues from the European Molecular Biology Laboratory (EMBL) have developed the first method with which they can analyze the composition of the entire RNA-protein network of the cell. The new method has now been published in the scientific journal "Cell". [read more](#)



A network of interacting RNAs and proteins is active in each of our cells. © Fotolia

Intermittent fasting: No advantage over conventional weight loss diets



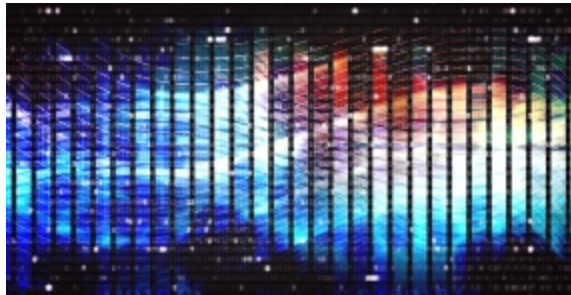
Both interval fasting and a conventional diet reduce the harmful visceral fat (right, marked blue). Subcutaneous fat (left, marked pink) is considered less risky for health. © Universitätsklinikum Heidelberg/DKFZ

Intermittent fasting helps lose weight and promotes health. However, it is not superior to conventional calorie restriction diets, scientists from the DKFZ and Heidelberg University Hospital have found out in a study called HELENA – the largest investigation on intermittent fasting to date. The scientists conclude that there are many paths leading to a healthier weight. Everybody must find a diet plan that fits them best and then just do it! [read more](#)

Algorithm identifies multiple gene–environment relationships

Researchers at the DKFZ, EMBL's European Bioinformatics Institute (EMBL-EBI) and the Wellcome Sanger Institute have developed a new computational method that makes it possible to identify the impact of hundreds of environmental factors on genotype–environment interactions. The method will enhance understanding of relationship between genotype and environmental factors.

[read more](#)



© Spencer Phillips, EMBL European Bioinformatics Institute

Neuroblastoma: telomere extension crucial for disease progression



In neuroblastoma, the ends of the chromosomes - called telomeres - determine the course of the disease. © Fotolia

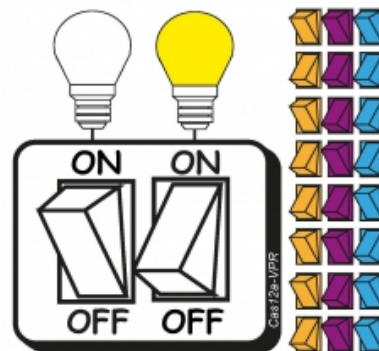
One of the most common types of childhood cancer is neuroblastoma, a tumor of the peripheral nervous system. Partly, this tumor regresses completely without any therapy, however, in some patients, it progresses inexorably despite high-intensity therapy. In a recent study, scientists from the University Hospital Cologne, together with researchers from the Hopp Children's Tumor Center Heidelberg (KITZ) and colleagues from the Charité Berlin, investigated the genetic causes of the different progressive forms of this tumor as part of

an international research project. The researchers now published their results in the science journal *Science*.

The Hopp Children's Tumor Center Heidelberg (KITZ) is a joint institution of the German Cancer Research Center (DKFZ), the Heidelberg University Hospital (UKHD) and the University of Heidelberg (UniHD). [read more in German](#)

Make two out of one - a new genetic tool for cancer research

Scientists from the DKFZ and the Heidelberg University Hospital have developed a new genetic tool based on the gene scissors CRISPR-Cas: they rebuilt the system so that it could simultaneously activate or inactivate genes. The method should help to decipher the complex interaction of genes in the development of cancer. [read more in German](#)



New CRISPR-Cas tool allows genes to be turned on and off © Marco Breinig/DKFZ

A major step towards digital oncology



© Fotolia

Methods of artificial intelligence (AI) such as deep learning using neural networks are gaining increasing importance in health research and personalized medicine. In oncology, new experimental and diagnostic methods such as genome sequencing and whole-body imaging by magnetic resonance imaging are also generating growing amounts of data. To tackle this challenge, the DKFZ has now started operating a new infrastructure. It is based on two extremely powerful supercomputers which use

graphics processing units for deep learning. For this purpose, each of these supercomputers has 16 times the memory of previous technologies and has a computing capacity corresponding to 600 classic processing units. This enables scientists to use mathematical models that are many times more complex than previous ones. [read more](#)

Harmful trend products amongst young people: hookah and e-cigarettes

Cigarettes are out, water pipes, which are also called "Hookah" are in, especially among young people. To draw attention to the mostly underestimated health hazards, especially of water pipes, on the occasion of the 16th German Conference on Tobacco Control the DKFZ published three factsheets on hookahs, E-cigarettes and tobacco heaters.

[read more in German](#)



© DKFZ

Highlight publications

Actively personalized vaccination trial for newly diagnosed glioblastoma.

Nature. 2019 Jan;565(7738):240-245. doi: 10.1038/s41586-018-0810-y. Epub 2018 Dec 19. Hilf N, Kuttruff-Coqui S, Frenzel K, Bukur V, Stevanović S, Gouttefangeas C, Platten M, Tabatabai G, Dutoit V, van der Burg SH, Thor Straten P, Martínez-Ricarte F, Ponsati B, Okada H, Lassen U, Admon A, Ottensmeier CH, Ulges A, Kreiter S, von Deimling A, Skardelly M, Migliorini D, Kroep JR, Idorn M, Rodon J, Piró J, Poulsen HS, Shraibman B, McCann K, Mendrzyk R, Löwer M, Stieglbauer M, Britten CM, Capper D, Welters MJP, Sahuquillo J, Kiesel K, Derhovanessian E, Rusch E, Bunse L, Song C, Heesch S, Wagner C, Kemmer-Brück A, Ludwig J, Castle JC, Schoor O, Tadmor AD, Green E, Fritsche J, Meyer M, Pawlowski N, Dorner S, Hoffgaard F, Rössler B, Maurer D, Weinschenk T, Reinhardt C, Huber C, Rammensee HG, Singh-Jasuja H, Sahin U, Dietrich PY, Wick W.

[link to article](#)

The Human RNA-Binding Proteome and Its Dynamics during Translational Arrest.

Cell. 2019 Jan 10;176(1-2):391-403.e19. doi: 10.1016/j.cell.2018.11.004. Epub 2018 Dec 6. Trendel J, Schwarzl T, Horos R, Prakash A, Bateman A, Hentze MW, Krijgsveld J.

[link to article](#)

Comprehensive Analysis of Chromatin States in Atypical Teratoid/Rhabdoid Tumor Identifies Diverging Roles for SWI/SNF and Polycomb in Gene Regulation.

Cancer Cell. 2019 Jan 14;35(1):95-110.e8. doi: 10.1016/j.ccell.2018.11.014. Epub 2018 Dec 27.

Erkek S, Johann PD, Finetti MA, Drosos Y, Chou HC, Zapatka M, Sturm D, Jones DTW, Korshunov A, Rhyzova M, Wolf S, Mallm JP, Beck K, Witt O, Kulozik AE, Frühwald MC, Northcott PA, Korbel JO, Lichter P, Eils R, Gajjar A, Roberts CWM, Williamson D, Hasselblatt M, Chavez L, Pfister SM, Kool M.

[link to article](#)

Molecular Evolution of Early-Onset Prostate Cancer Identifies Molecular Risk Markers and Clinical Trajectories.

Cancer Cell. 2018 Dec 10;34(6):996-1011.e8. doi: 10.1016/j.ccell.2018.10.016.

Gerhauser C, Favero F, Risch T, Simon R, Feuerbach L, Assenov Y, Heckmann D, Sidiropoulos N, Waszak SM, Hübschmann D, Urbanucci A, Girma EG, Kuryshev V, Klimczak LJ, Saini N, Stütz AM, Weichenhan D, Böttcher LM, Toth R, Hendriksen JD, Koop C, Lutsik P, Matzk S, Warnatz HJ, Amstislavskiy V, Feuerstein C, Raeder B, Bogatyrova O, Schmitz EM, Hube-Magg C, Kluth M, Huland H, Graefen M, Lawerenz C, Henry GH, Yamaguchi TN, Malewska A, Meiners J, Schilling D, Reisinger E, Eils R, Schlesner M, Strand DW, Bristow RG, Boutros PC, von Kalle C, Gordenin D, Sültmann H, Brors B, Sauter G, Plass C, Yaspo ML, Korbel JO, Schlomm T, Weischenfeldt J.

[link to article](#)

GADD45A binds R-loops and recruits TET1 to CpG island promoters.

Nat Genet. 2019 Jan 7. doi: 10.1038/s41588-018-0306-6. [Epub ahead of print]

Arab K, Karaulanov E, Musheev M, Trnka P, Schäfer A, Grummt I, Niehrs C.

[link to article](#)

Identification of Embryonic Neural Plate Border Stem Cells and Their Generation by Direct Reprogramming from Adult Human Blood Cells.

Cell Stem Cell. 2019 Jan 3;24(1):166-182.e13. doi: 10.1016/j.stem.2018.11.015. Epub 2018 Dec 20.

Thier MC, Hommerding O, Panten J, Pinna R, García-González D, Berger T, Wörsdörfer P, Assenov Y, Scognamiglio R, Przybylla A, Kaschutnig P, Becker L, Milsom MD, Jauch A, Utikal J, Herrmann C, Monyer H, Edenhofer F, Trumpp A.

[link to article](#)

Upcoming event

1st Immunology & Inflammation (I & I) Conference in Berlin

February 24-26, 2019

The 1st Immunology & Inflammation (I & I) Conference aims to serve as an international and interactive platform for exchange of ideas and scientific discussion on the latest ground-breaking discoveries in the field. The DKFZ is an active part of this "Helmholtz-future-topic" with several research groups/scientists involved.

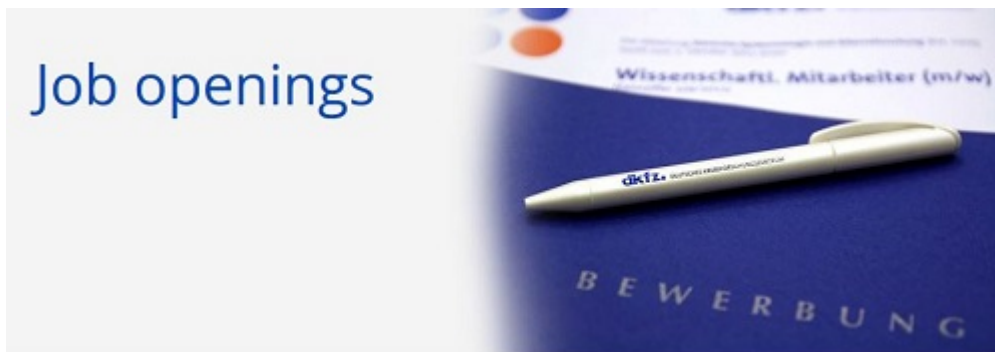


The program comprises four sessions covering the key new developments, their impact on Life Science, and implications for modern medicine. Each session will feature the world-renowned experts who have contributed to the breakthroughs that fuelled these new areas of investigation:

- Keynote: Dan Littman
- Session I - Lineage determination in the hematopoietic system:
David Kent, Hans-Reimer Rodewald, Sten Linnarsson
- Session II - Antibody diversification:
Frederick Alt, David Schatz, Michael Reth, Gabriel Victora
- Session III - Neuroinflammation:
Oleg Butovsky, Joseph El-Khoury, Bente Finsen, Marco Prinz, Carla Shatz
- Session IV - Somatic gene therapy:
Christopher Garcia, Carl June, Cliona M. Rooney

more information [here](#)

Job openings



Please check our DKFZ website [here](#)

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TO BENCH AND BACK.
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Alumni matters

Get-together for DKFZ Alumni in the Boston/Cambridge area Sunday, 17th February at 7 p.m.



We'll meet at the **Cambridge Brewing Company**
restaurant in Cambridge, about 5-10 mins walk
from the Kendall Square T-stop on the red line. See
[here](#) for further directions and parking details.

If you are interested in joining the get-together
(informal dinner), please write to [meet-
alumni@dkfz.de](mailto:meet-alumni@dkfz.de).

If you know of other former DKFZ members who are working in the area, please pass on this
information and encourage them to come along.

You might also be interested in attending the **European Career Fair**, taking place on Saturday
16th February at **MIT**, at which the DKFZ will also be represented with a stand. For more info,
visit <https://ecf.com>.

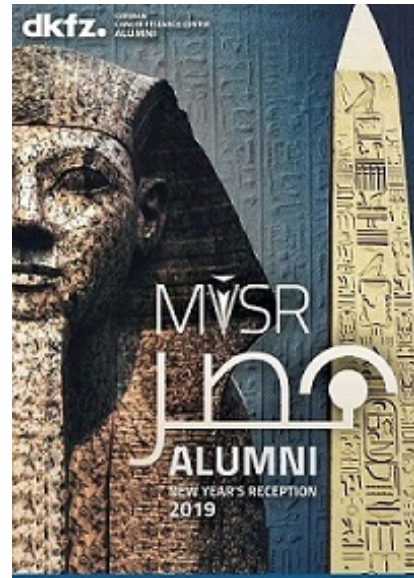
INVITATION to the Alumni New Year's Reception 2019 "MISR - greetings from Egypt"

Thursday, 21st February 2019, 16:45

This year's version of the Alumni New Year's Reception comes with an Egyptian taste. Enjoy our three T performances (Tahteeb, Tabla and Tannoura) and an oriental Nightingale. Take your experience home to your friends using the photobooth. Join us and your fellow alumni for a night full of culture, music and traditional Egyptian cuisine.

Registration is free and everyone is invited!

[register here](#)



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Imprint

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Research for a Life without Cancer