

Welcome to the August/September edition of Alumni Monthly

After a summer break we are now back with DKFZ news from August and September. Enjoy reading about world class radiology and other successful cancer research projects and get a closer look at our new research groups. Please also consider our job openings, maybe for yourself, maybe for a talented colleague.

For suggestions concerning this newsletter please write to <u>susanne.schunk@dkfz.de</u> **Content**

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News from the Press Office

DKFZ researcher is among the world's best in radiology

Alexander Radbruch, a radiologist at the German Cancer Research Center (DKFZ) has been recognized by peer professionals to be among the 15 most influential persons worldwide in the category Radiology Research. Radbruch has become known internationally in recent years from his studies showing that gadolinium, a contrast agent used for magnetic resonance imaging, can be retained in the brain. <u>read more</u>



Alexander Radbruch © Jutta Jung/DKFZ

Chronic cell death promotes liver cancer



A model for chronic liver disease: In this genetically modified mouse liver apoptosis is increased. Apoptotic cells are marked by arrow heads, the circle marks mitotic cells. © Heikenwälder/DKFZ

Liver cancer occurs predominantly in patients whose liver has been damaged as a result of chronic disease. Until now it has remained in the dark how these events are linked at molecular level. An international team of scientists from the German Cancer Research Center and the University of Zurich has now shown that chronic cell death promotes the development of cancer. The more cells die, the more the remaining cells have to divide. In this process, they accumulate mutations: fertile ground for liver cancer to develop. <u>read more</u>

»Тор

Chaos in cell division – How chromosomal defects arise in cancer cells

Cancer cells often have aberrant numbers of chromosomes. Scientists from the German Cancer Research Center have now discovered a new mechanism that plays a role in these typical chromosomal aberrations. The new findings question the current concept of how cancer cells survive the chaos during cell division. This might also make it necessary to rethink specific treatment approaches that interfere with the distribution of chromosomes. read more



Cell division with surplus centrioles at both spindle poles. The upper panel is a light-microscopy image; the lower panel is an electron microscopy-based (FIB/SEM) 3D reconstruction of a mitotic cell. © Alwin Krämer/DKFZ

»Тор

Using barcodes to trace cell development



© Nicole Schuster/DKFZ

There are various concepts about how blood cells develop. However, they are based almost exclusively on experiments that solely reflect snapshots. In a publication in Nature, scientists from the German Cancer Research Center in Heidelberg now present a novel technique that captures the process in a dynamic way. Using a "random generator", the researchers label hematopoietic stem cells with genetic barcodes that enable them to trace which cell types arise from the stem cell. This method will facilitate whole new insights into the development of various tissues as well as cancer. <u>read more</u>

»Top Therapies for older leukemia patients

The German Research Foundation (Deutsche Forschungsgemeinschaft, DFG) will provide funding for a new research group at the German Cancer Research Center (DKFZ) and at the University of Freiburg and Freiburg University Medical Center. The scientists will jointly pursue fundamental and clinical research into acute myeloid leukemia (AML). The DFG will support the project with funds of approximately \notin 4.2 million over the next three years. <u>read more</u>



© The Armed Forces Institute of Pathology (AFIP), Wikimedia Commons

»Тор

Cancer cells put the brakes on immune system



Macrophage after treatment with green colored exosomes (blue nucleus, red: cytoskeleton) © DKFZ

In order for cancer cells to successfully spread and multiply, they must find a way to avoid the body's own immune system. Scientists at the German Cancer Research Center (DKFZ) have published an explanation for how this occurs with chronic lymphatic leukemia (CLL). The degenerated cells cause an inflammatory reaction and influence other blood cells with it so much, that the immune system is suppressed. They send out messages via exosomes, little bubbles, which the cells transmit to their surroundings. The discovery by the DKFZ scientists paves the way for new therapy approaches. <u>read more</u>

»Top New edition of einblick

For more current research news, we invite you to take a look at the latest issue of einblick (in German), which has a focus on inflammation and cancer.



© DKFZ

Highlight Publications

Selected by the Research Program Coordinators

A Dual Role of Caspase-8 in Triggering and Sensing Proliferation-Associated DNA Damage, a Key Determinant of Liver Cancer Development.

Cancer Cell. 2017 Sep 11;32(3):342-359.e10. doi: 10.1016/j.ccell.2017.08.010.

Boege Y, Malehmir M, Healy ME, Bettermann K, Lorentzen A, Vucur M, Ahuja AK, Böhm F, Mertens JC, Shimizu Y, Frick L, Remouchamps C, Mutreja K, Kähne T, Sundaravinayagam D, Wolf MJ, Rehrauer H, Koppe C, Speicher T, Padrissa-Altés S, Maire R, Schattenberg JM, Jeong JS, Liu L, Zwirner S, Boger R, Hüser N, Davis RJ, Müllhaupt B, Moch H, Schulze-Bergkamen H, Clavien PA, Werner S, Borsig L, Luther SA, Jost PJ, Weinlich R, Unger K, Behrens A, Hillert L, Dillon C, Di Virgilio M, Wallach D, Dejardin E, Zender L, Naumann M, Walczak H, Green DR, Lopes M, Lavrik I, Luedde T, Heikenwalder M, Weber A. link to article

Maximum intensity breast diffusion MRI for BI-RADS 4 lesions detected on X-ray mammography.

Clin Radiol. 2017 Oct; 72(10): 900.e1-900.e8. doi: 10.1016/j.crad.2017.05.017. Epub 2017 Jul 4. Bickelhaupt S, Paech D, Laun FB, Steudle F, Kuder TA, Mlynarska A, Bach M, Lederer W, Teiner S, Schneider S, Ladd ME, Daniel H, Stieber A, Kopp-Schneider A, Delorme S, Schlemmer HP

link to article

Polylox barcoding reveals haematopoietic stem cell fates realized in vivo.

Nature. 2017 Aug 24;548(7668):456-460. doi: 10.1038/nature23653. Epub 2017 Aug 16. Pei W, Feyerabend TB, Rössler J, Wang X, Postrach D, Busch K, Rode I, Klapproth K, Dietlein N, Quedenau C, Chen W, Sauer S, Wolf S, Höfer T, Rodewald HR. link to article

Adiabatically prepared spin-lock approach for T1p-based dynamic glucose enhanced MRI at ultrahigh fields.

Magn Reson Med. 2017 Jul; 78(1): 215-225. doi: 10.1002/mrm.26370. Epub 2016 Aug 13. Schuenke P, Koehler C, Korzowski A, Windschuh J, Bachert P, Ladd ME, Mundiyanapurath S, Paech D, Bickelhaupt S, Bonekamp D, Schlemmer HP, Radbruch A, Zaiss M.

link to article

Radiation dosimetry in magnetic fields with Farmer-type ionization chambers: determination of magnetic field correction factors for different magnetic field strengths and field orientations.

Phys Med Biol. 2017 Aug 1;62(16):6708-6728. doi: 10.1088/1361-6560/aa7ae4. Spindeldreier CK, Schrenk O, Bakenecker A, Kawrakow I, Burigo L, Karger CP, Greilich S, Pfaffenberger A. link to article

In silico modeling of immunotherapy and stroma-targeting therapies in human colorectal cancer.

Cancer Res. 2017 Sep 18. pii: canres.2006.2017. doi: 10.1158/0008-5472.CAN-17-2006. [Epub ahead of print]

Kather JN, Poleszczuk J, Suarez-Carmona M, Krisam J, Charoentong P, Valous NA, Weis CA, Tavernar L, Leiss F, Herpel E, Klupp F, Ulrich A, Schneider M, Marx A, Jaeger D, Halama N <u>link to article</u>

Oncolytic H-1 Parvovirus Shows Safety and Signs of Immunogenic Activity in a First Phase I/IIa Glioblastoma Trial.

Molecular Therapy. (2017), doi: 10.1016/ j.ymthe.2017.08.016. [Epub ahead of print] Karsten Geletneky, Jacek Hajda, Assia L. Angelova, Barbara Leuchs, David Capper, Andreas J. Bartsch, Jan-Oliver Neumann, Tilman Schöning, Johannes Hüsing, Birgit Beelte, Irina Kiprianova, Mandy Roscher, Rauf Bhat, Andreas von Deimling, Wolfgang Brück, Alexandra Just, Veronika Frehtman, Stephanie Löbhard, Elena Terletskaia-Ladwig, Jeremy Fry, Karin Jochims, Volker Daniel, Ottheinz Krebs, Michael Dahm, Bernard Huber, Andreas Unterberg, Jean Rommelaere link to article

Deciphering the Origin and Evolution of Hepatitis B Viruses by Means of a Family of Non-enveloped Fish Viruses.

Cell Host Microbe. 2017 Sep 13;22(3):387-399.e6. doi: 10.1016/j.chom.2017.07.019. Epub 2017 Aug 31. Lauber C. Seitz S. Mattei S. Sub A. Beck J. Herstein J. Börold J. Salzburger W. Kaderali J.

Lauber C, Seitz S, Mattei S, Suh A, Beck J, Herstein J, Börold J, Salzburger W, Kaderali L, Briggs JAG, Bartenschlager R.

link to article

The whole-genome landscape of medulloblastoma subtypes.

Nature. 2017 Jul 19;547(7663):311-317. doi: 10.1038/nature22973.

Northcott PA, Buchhalter I, Morrissy AS, Hovestadt V, Weischenfeldt J, Ehrenberger T, Gröbner S, Segura-Wang M, Zichner T, Rudneva VA, Warnatz HJ, Sidiropoulos N, Phillips AH, Schumacher S, Kleinheinz K, Waszak SM, Erkek S, Jones DTW, Worst BC, Kool M, Zapatka M, Jäger N, Chavez L, Hutter B, Bieg M, Paramasivam N, Heinold M, Gu Z, Ishaque N, Jäger-Schmidt C, Imbusch CD, Jugold A, Hübschmann D, Risch T, Amstislavskiy V, Gonzalez FGR, Weber UD, Wolf S, Robinson GW, Zhou X, Wu G, Finkelstein D, Liu Y, Cavalli FMG, Luu B, Ramaswamy V, Wu X, Koster J, Ryzhova M, Cho YJ, Pomeroy SL, Herold-Mende C, Schuhmann M, Ebinger M, Liau LM, Mora J, McLendon RE, Jabado N, Kumabe T, Chuah E, Ma Y, Moore RA, Mungall AJ, Mungall KL, Thiessen N, Tse K, Wong T, Jones SJM, Witt O, Milde T, Von Deimling A, Capper D, Korshunov A, Yaspo ML, Kriwacki R, Gajjar A, Zhang J, Beroukhim R, Fraenkel E,

Korbel JO, Brors B, Schlesner M, Eils R, Marra MA, Pfister SM, Taylor MD, Lichter P. link to article

»Тор

New Research Groups

Division of Medical Image Computing PD Dr. Klaus Maier-Hein

Medical images uniquely represent the anatomical and functional progress of diseases in 3D space and time. The Division of Medical Image Computing strives to utilize the vast and unexploited potential in these images through computational image understanding and information processing.

"Radiomics" denotes the emerging endeavor of systematic extraction, mining and leveraging of this rich information towards personalized medicine. We aim to comprehensively summarize imaging information from multiple time-points and modalities in condensed, quantitative signatures and link them with clinical and biological parameters (e.g. genomics or proteomics). We develop our methods for various clinical applications, with a particular emphasis on prostate cancer, breast cancer and brain tumors. <u>read more</u>



© Klaus Maier-Hein

»Top

Junior Group Bioinformatics and Omics Data Analytics Dr. Matthias Schlesner



© Matthias Schlesner

The Bioinformatics and Omics Data Analytics Group explores such high-dimensional data to address questions in basic and translational cancer research. A major focus of our work is the analysis and interpretation of nextgeneration sequencing data. In interdisciplinary research projects with cancer biologists and clinicians we aim to understand cancer genomes and the alterations of cancer cells at other molecular layers like the epigenome and transcriptome. Our goals include the identification of driver alterations. the

reconstruction of tumor evolution, and the identification of targetable lesions and predictive biomarkers. Furthermore, we support personalized oncology projects, for example in the frame of the Heidelberg Center for Personalized Oncology (DKFZ-HIPO), by performing tumor (sub-)classification based on molecular profiles and by predicting the effectiveness of drugs in individual tumors. <u>read more</u>

»Top Dieter Saur: New DKTK Professor in Munich

Professor Dieter Saur took up the new "Translational Tumor Research" professorship at Klinikum Rechts der Isar, the university hospital of the Technical University of Munich, on 1 August 2017. It is one of two professorships set up by the German Cancer Consortium (DKTK) at its partner site in Munich.

The gastroenterologist has been conducting research at the Technical University of Munich since 2001. Most recently he was in charge of the Gastrointestinal Cancer Working Group at Klinik und Poliklinik für Innere Medizin II, part of Klinikum Rechts der Isar. He specializes in researching genetic networks that lead to the onset of pancreatic, bile duct and colon cancer.



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Upcoming events

NCT Charity Concert - 1.174 Takte gegen Krebs Die Junge Deutsche Philharmonie

(1,174 Measures Against Cancer, German Youth Philharmonic Orches

tra)



September 30, 2017 The NCT presents: Die Junge Deutsche Philharmonie Conductor Jukka-Pekka Saraste Solo artist Tzimon Barto, Klavier Program Kaija Saariaho (*1952) Laterna magica für Orchester (2008) Sergej Prokofieff (1891-1953) Konzert für Klavier und Orchester Nr. 3 C-Dur op. 26 Carl Nielsen (1865-1931) Sinfonie Nr. 4 op. 29 (Das Unauslöschliche)

Stadthalle Heidelberg September, 30th 2017 Admission 19:00

Patronage

Theresia Bauer MdL, Minister for Science and Arts und Prof. Dr. Eckart Würzner Mayor of Heidelberg Hosted by Dr. Norbert Lehmann (ZDF) Book your tickets <u>here</u>

»Тор

57th Heidelberg Grand Rounds (HGR) Combination Therapy



Symposium in memoriam Jörg Langowski: His lasting contribution to science



»Тор

Thursday, 12th October 2017, starting at 2 pm

A memorial symposium will be held at the DKFZ to honour the scientific work and life of Professor Jörg Langowski who died in a tragic accident in May this year. The invited speakers are all close colleagues, collaborators or former students of Jörg, who will give an overview of their work with him and what has become of it.

Attendance is open to all present and former colleagues, co-workers and friends of Jörg Langowski. For better planning please register by sending an e-mail to one of the conference organisers, Dr. Katalin Toth (<u>kt@dkfz.de</u>.) and Prof. Werner Franke (<u>w.franke@dkfz.de</u>).

Details

»Top DKFZ Career Day "Academia"

October 20, 2017

This day will give you the unique opportunity to learn more about Academia from selected talks, workshops and social events. Would you like to know how to boost your academic career by funding, mentorship and industry cooperation? Do you wonder if there is any unconventional career path in Academia? You will also have the exciting chance to get inspired by our **keynote speaker**, **Nobel Laureate Stefan W. Hell**.

Registration and details

To receive exclusive updates on the growing program please join the event on <u>https://dkfz-connect.de/event</u>



HIPO2 Symposium on Personalized Oncology 2017

October 25, 2017

Confirmed guest speakers: Dr. Jan Korbel, EMBL Heidelberg; Prof. Dr. Reiner Siebert, University Hospital UIm Prof. Dr. Wilko Weichert, Technical University Munich

Registration and details

»Тор

Nobel Laureate Lecture: Sir Paul Nurse Controlling the Cell Cicle

October 27, 2017, 17:00

Sir Paul Nurse is a geneticist and cell biologist who has worked on how the eukaryotic cell cycle is controlled and how cell shape and cell dimensions are determined. His major work has been on the cyclin dependent protein kinases and how they regulate cell reproduction. He is Director of the Francis Crick Institute in London, and has served as President of the Royal Society, Chief Executive of Cancer Research UK and President of Rockefeller University. He shared the 2001 Nobel Prize in Physiology or Medicine and has received the Albert Lasker Award and the Royal Society's Royal and Copley Medals. He was knighted in 1999, received the Legion d'honneur in 2003, and for 15 years was a member of the Council for Science and Technology advising the UK Prime Minister and Cabinet concerning science and innovation issues, and is now a member of the EU Scientific Advice Mechanism.

Details

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RTG2099 "Hallmarks of Skin Cancer Conference" (HoSC)



November 6-8, 2017

confirmed distinguished speakers:

Boris C. Bastian, San Francisco Corine Bertolotto, Nice Cédric Blanpain, Bruxelles Anja Katrin Bosserhoff, Erlangen Meenhard Herlyn, Philadelphia Catherin Niemann, Cologne Carien Niessen, Cologne Sergio Quezada, London Dennis Roop, Aurora Dirk Schadendorf, Essen Maria Sibilia, Vienna Patrizia Stoitzner, Innsbruck Thomas Tüting, Magdeburg Erwin Wagner, Madrid Fiona M. Watt, London Ashani Weeraratna, Philadelphia

Registration and Details

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Job openings

Scientific jobs

• 270/2017 Wissenschaftliche/r Mitarbeiter/in im Bereich Medizinische Informatik/ Softwareentwicklung - Medizinische Informatik in der Translationalen Onkologie

- 269/2017 Full Professorship (W3) in "Infection, Inflammation and Cancer" -
- 268/2017 Research Engineer Computer Assisted Medical Interventions

• 262/2017 Wissenschaftliche/r Mitarbeiter/in Medizininformatik in Teilzeit 50% - Heidelberger Institut für Radioonkologie (HIRO)

- 258/2017 Postdoctoral Scientist in Applied Health Economics Health Economics
- 254/2017 Research Software Engineer Medizinische Bildverarbeitung
- 252/2017 Postdoc Partner site Dresden of the National Center for Tumor Diseases (NCT)
- 251/2017 Wissenschaftliche/r Projektkoordinator/in Chronische Entzündung und Krebs
- 248/2017 Postdoc / Bioinformatician Theoretical Bioinformatics
- 246/2017 Wissenschaftliche/r Koordinator/in / Wissenschaftliche/r Referent/in Partnerstandort Dresden des Nationalen Centrums für Tumorerkrankungen (NCT)
- 244/2017 (Fach)arzt/ärztin für die Entwicklung von klinischen Studien in Teilzeit 19,75 Std./Woche - Klinische Kooperationseinheit Pädiatrische Onkologie
- 241/2017 Bioinformatiker/in Softwareentwicklung (FH) Signalwege und Funktionelle

Genomik

• 228/2017 Postdoctoral Fellow MR-Guided Radiotherapy - Medical Physics in Radiology

 168/2017 Postdoc Position - Wnt signalling in Mouse Developmental Biology - Molecular Embryology

PhD studentships

• PhD Positions in Cancer Research within the International PhD Program

• 273/2017 PhD Student - Clonal Tumor Evolution and Functional Genomics - Molecular & Translational Radiation Oncology

- 253/2017 PhD Student Vascular Signaling and Cancer
- 214/2017 PhD Position Preventive Oncology

Laboratory / Engineering department

- 264/2017 Technische/r Assistent/in Angewandte Funktionelle Genomik
- 256/2017 Ingenieur/in Versorgungstechnik Technische Infrastruktur
- 249/2017 Architekt/in Technische Infrastruktur

• 236/2017 Technische/r Assistent/in in Teilzeit 19,75 Std./Woche - Deutsches Konsortium für Translationale Krebsforschung (DKTK) Freiburg

Administration

• 266/2017 Sekretär/in der NAKO Gesundheitsstudie - Epidemiologie von Krebserkrankungen

- 225/2017 Medical Writer / Arzt/Ärztin Krebsinformationsdienst
- 215/2017 Personalentwickler/in in Teilzeit 19,75 Std./Woche Personalabteilung, Career Service
- 210/2017 Arzt/ Ärztin in Teilzeit 20 Std./Woche Krebsinformationsdienst

Further job offers

• 277/2017 Medizinische Dokumentare/innen - Nationales Centrum für Tumorerkrankungen

• 276/2017 Study Nurses - Nationales Centrum für Tumorerkrankungen

• 274/2017 Medizinische/r Dokumentar/in in Teilzeit 19,75 Std./Woche Krebsinformationsdienst

• 271/2017 Scrum Master Softwareentwicklung - Medizinische Informatik in der Translationalen Onkologie

• 267/2017 Student Research Assistant in part time 19 hours/week - Health Economics

• 265/2017 Studentische Hilfskraft Informatik in Teilzeit 83 Std./Monat - Deutsches Konsortium für Translationale Krebsforschung (DKTK) Dresden

- 261/2017 Medizinische/r Dokumentar/in Heidelberger Institut für Radioonkologie (HIRO)
- 260/2017 Data Manager/in Heidelberger Institut für Radioonkologie (HIRO)

• 259/2017 Study Nurse in Teilzeit 19,75 Std./Woche - Deutsches Konsortium für Translationale Krebsforschung (DKTK) Berlin

• 235/2017 IT Dateningenieur/in / Softwareentwickler/in - Deutsches Konsortium für Translationale Krebsforschung (DKTK) Dresden

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Alumni matters

UK Alumni Get-Together in London on October 3rd, 2017



The next Alumni get-together in the UK will take place on the evening of Tuesday 3rd October in central London.

You can already register by sending an email to <u>meet-alumni@dkfz.de</u> or joining the event on <u>DKFZ-Connect</u>. Further details will be provided to participants nearer the time.

On the following day (4th October) the

DKFZ will take part in the **NatureJobs Career Expo in London**, which those of you in the London area may also be interested in attending if you're looking to take your next career step.

»Тор

NEW : Alumni Monthly archive now online

For all those who whant to read recent issues of Alumni Monthly we have now installed an archive on the Alumni <u>homepage</u>



»Тор

Alumni get-together in San Francisco on August 25th



On August 25th Stefan Joos and Philipp Gebhardt hosted a get-together for DKFZ Alumni in the San Francisco Bay area. Thirteen alumni joined the event, who together have been part of over half of DKFZ's history. Participants met up with old and new friends and lively conversations ensued, with everybody deeming the evening a great success.

While they were in San Francisco, Stefan and Philipp also attended the **German Academic International Network (GAIN)** Annual Conference, where they had the opportunity to talk to and inform many young scientists about research opportunities at the DKFZ and the German Cancer Consortium (DKTK).

If you are interested in joining one of our international DKFZ Alumni local groups, please visit <u>www.dkfz.de/en/alumni</u> or contact <u>meet-alumni@dkfz.de</u> for details.

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Stay Connected



Join the Alumni Association

Alumni members benefit from an attractive range of activities:

- · Alumni Monthly electronic newsletter reporting on recent developments at the DKFZ
- Publication of Alumni Magazine reporting on Alumni activities
- Eligibility for a DKFZ Alumni email address your.name@alumni.dkfz.de
- Biennial General Alumni Meeting and Scientific Symposium, including travel grants
- Invitations to social events and excursions

All current and former DKFZ colleagues are welcome to join. Please register at <u>www.dkfz.de/en/alumni</u>

»Тор

Join DKFZ Connect

Join more than 2111 colleagues on DKFZ Connect, the online platform for networking and mentoring between former and current employees, including events and job postings. You can register per email or easily sync your profile with social media on www.dkfz-connect.de



- Current & former DKFZ
- Employees & Alumni
- Career Network
- Advice & Mentoring
- News & Events
- Jobs
- 0000



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Imprint

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