



**ZMBH**

ZENTRUM FÜR MOLEKULARE BIOLOGIE  
DER UNIVERSITÄT HEIDELBERG



**dkfz.**

GERMAN  
CANCER RESEARCH CENTER  
IN THE HELMHOLTZ ASSOCIATION



50 Years – Research for  
A Life Without Cancer

# Tumor Microenvironment, Metabolism and Metastasis

**DKFZ-ZMBH Alliance Forum**

September 28-30, 2015  
German Cancer Research Center (DKFZ)  
Communication Center, Lecture Hall

*organized by the DKFZ-ZMBH Alliance*



MONDAY, SEPTEMBER 28

## Welcome

09:30 **Welcome: Michael Boutros**

Scientific Director (interim) of the DKFZ

## Session I: Tumor Microenvironment - The Immune System

**Chair: Marieke Essers & Hans-Reimer Rodewald**

09:45 **Karin de Visser**, Amsterdam, NED

*Cancer-induced systemic inflammation promotes breast cancer metastasis*

10:15 **Douglas Hanahan**, Lausanne, SUI

*Exploring inflammatory barriers to effective immunotherapy in mouse models of human cancer*

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## MONDAY, SEPTEMBER 28

### 10:45 COFFEE BREAK & POSTER VIEWING

11:30 **Dieter Saur**, Munich, GER

*Systematic genetic analysis of the pancreatic cancer microenvironment*

12:00 **Anne-Theres Henze**, Leuven, BEL (selected abstract)

*Mir-210 in macrophages exacerbates their inflammatory (M1-like) phenotype during sepsis or cancer*

12:15 **Michael Karin**, San Diego, USA

*From inflammation to immunity:  
Understanding cancer and improving its treatment*

### 12:45 LUNCH BREAK

## Session II: Cancer Metabolism

**Chair: Ana Martin-Villalba**

14:00 **Mathias Heikenwalder**, Heidelberg, GER

*Legislation and execution: Novel insights in the mechanisms causing NASH and NASH-driven HCC*

14:30 **Parthive Patel**, Heidelberg, GER (selected abstract)

*Regional cell-specific transcriptome mapping reveals the regulatory complexity of the adult Drosophila midgut*

14:45 **Valerie LeBleu**, Houston, USA

*Metabolic reprogramming of CAFs and cancer cells in metastasis*

## Poster Session I

15:15 Posters # I-1 to # I-33 are displayed in the foyer

## Session III: Cancer Metabolism

Chair: Tobias Dick

- 16:45 **Max Mazzone**, Leuven, BEL  
*Metabolic control of macrophages:  
Implications for cancer angiogenesis and metastasis*
- 17:15 **Yan Stein**, Rehovot, ISR (selected abstract)  
*Mutant p53 modulates the signal of stromal-secreted  
hepatocyte growth factor (HGF) to endow cancer cells with  
drug resistance*
- 17:30 **Celeste Simon**, Philadelphia, USA  
*Hypoxic adaptations during tumor progression*

## Social Event

19:00 *by invitation only*

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\* Kinetics imaging in a subcutaneous hindlimb tumor

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TUESDAY, SEPTEMBER 29

## Session III: Cancer Stem Cells & Signaling

Chair: Haikun Liu & Andreas Trumpp

09:30 **Gian Paolo Dotto**, Lausanne, SUI

*Expanding cancer fields and multistep cancer associated fibroblast activation under convergent CSL and p53 control*

10:00 **Stefano Piccolo**, Padova, ITA

*YAP/TAZ regulation by the tumor microenvironment: Hippo signaling and beyond*

10:30 **COFFEE BREAK & POSTER VIEWING**

11:15 **Jacco van Rheenen**, Utrecht, NED

*Intravital imaging reveals the dynamic nature of tumor heterogeneity*

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## TUESDAY, SEPTEMBER 29

- 11:45 **Amparo Acker-Palmer**, Frankfurt, GER (selected abstract)  
*EphrinB2 repression through ZEB2 mediates tumour invasion and anti-angiogenic resistance*
- 12:00 **Joerg Huelsken**, Lausanne, SUI  
*Mechanisms of colon cancer initiation, progression and metastasis*
- 12:30 **LUNCH BREAK**

### Session IV: Oncogenic Signaling & Metastasis

**Chair: Frank Lyko**

- 14:00 **Martin Eilers**, Würzburg, GER  
*Myc-dependent alterations in energy metabolism limit Yap/Taz function and the self-renewal potential of mammary epithelial cells*
- 14:30 **Hana Algül**, Munich, GER (selected abstract)  
*Inactivation of RelA identifies IL-8/KC/CXCR2 as a critical axis to control pancreatic carcinogenesis through mediating senescence and immune surveillance*
- 14:45 **Jos Jonkers**, Amsterdam, NED  
*Conditional mouse models of invasive lobular breast cancer*
- 15:15 **COFFEE BREAK & POSTER VIEWING**

TUESDAY, SEPTEMBER 29

## Session V: Oncogenic Signaling & Metastasis

Chair: Peter Angel

16:00 **Maria Sibia**, Vienna, AUT

*Cell-specific functions of the EGFR during tumorigenesis*

16:30 **Boris Strilic**, Bad Nauheim, GER (selected abstract)

*Tumor cell-induced endothelial cell necroptosis via death receptor 6 promotes metastasis*

16:45 **Fiona Watt**, London, GBR

*Role of epidermal-microbe interactions in tumour development*

17:15 **Erwin Wagner**, Madrid, ESP

*Linking inflammation to metabolism and cancer through AP-1 (Fos/Jun)*

## Poster Session II & Get-together

17:45 - 19:30 Posters # II-1 to # II-33 are displayed in the foyer

cDNA, ORF & shRNA Clones

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WEDNESDAY, SEPTEMBER 30

## Session VI: Tumor Microenvironment

**Chair: Adelheid Cerwenka & Andreas Fischer**

- 09:30 **Klaus Rajewsky**, Berlin, GER  
*Germinal centers and B cell lymphomagenesis*
- 10:00 **Michele de Palma**, Lausanne, SUI  
*microRNA control of tumor macrophages and response to immunotherapy*
- 10:30 **COFFEE BREAK & POSTER VIEWING**
- 11:15 **Gabriele Bergers**, San Francisco, USA  
*Heterogeneity of vascular niches in cancer : Implications of distinct immune cells*
- 11:45 **Guillem Genové**, Stockholm, SWE (selected abstract)  
*Tumor pericytes regulate myeloid-derived suppressor cell recruitment via IL-6*
- 12:00 **Daniel Peeper**, Amsterdam, NED  
*Systematic genetic perturbations to uncover cancer vulnerabilities*
- 12:30 **Raghu Kalluri**, Houston, USA  
*Stromal and immune control of pancreatic cancer*
- 13:00 **LUNCH BREAK**

## Session VII: Tumor Microenvironment

**Chair: Hellmut G. Augustin**

- 14:00 **Florian Greten**, Frankfurt, GER  
*Cell plasticity in colon cancer*
- 14:30 **Ulrike Stein**, Berlin, GER (selected abstract)  
*MACC-mize metastasis restriction in solid cancers*
- 14:45 **Napoleone Ferrara**, San Diego, USA  
*The role of the microenvironment in modulating tumor angiogenesis*
- 15:15 **Hellmut G. Augustin**  
*Farewell*
- 15:30 **END OF THE MEETING**

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## POSTER SESSION I

Monday, September 28

15:15 - 16:45 Posters # I-1 to I-33 are displayed in the foyer

- I-1** Merve Erdem, Uniklinik RWTH Aachen, Aachen, GER  
*Cell type-specific role of HIF1 $\alpha$  in cancer cachexia in a newly described mouse model of liver cancer*
- I-2** Max Wellenstein, Netherlands Cancer Institute, Amsterdam, NED  
*Mammary tumors enhance myelopoiesis and induce systemic accumulation of neutrophils to promote metastasis*
- I-3** Ruben Bill, University of Basel, Basel, SUI  
*Nintedanib is a highly effective new therapy of pancreatic neuroendocrine tumors*
- I-4** Xiaobing Yu, Karlsruhe Institute of Technology, Karlsruhe, GER  
*CD44 involvement in homing and engraftment of leukemic cells in the bone marrow niche*
- I-5** Elisa Espinet, DKFZ, Heidelberg, GER  
*A new patient derived xenograft model to study pancreatic ductal adenocarcinoma heterogeneity and its implication in tumor-stroma crosstalk*
- I-6** Silvia La Porta & Lise Roth, DKFZ, Heidelberg, GER  
*Role of Tie1 receptor tyrosine kinase during tumor angiogenesis and metastasis*
- I-7** Shakhawan Mustafa, DKFZ, Heidelberg, GER  
*Stromal cells and macrophage interaction in the pancreatic tumor microenvironment*
- I-8** Anne-Theres Henze, VIB Vesalius Research Center, Leuven, BEL  
*Mir-210 in macrophages exacerbates their inflammatory (M1-like) phenotype during sepsis or cancer*
- I-9** Laureen Sander, DKFZ, Heidelberg, GER  
*Melanosomes as transfer vehicles in the tumor microenvironment of melanoma*
- I-10** Attila Sebe, Paul Ehrlich Institute Langen, Langen, GER  
*An endothelial-mesenchymal transition of brain endothelial cells is required for metastatic extravasation*
- I-11** Katja Simon-Keller, University Medical Center Mannheim, Mannheim, GER  
*Resistance mechanisms of rhabdomyosarcomas to rhabdomyosarcoma-directed chimeric T Cells*
- I-12** Jihong Lin, Medical Faculty Mannheim, Heidelberg University, Mannheim, GER  
*The role of erythropoietin in mouse retinal angiogenesis*
- I-13** Maria Tsioumpkou, Ludwig Institute for Cancer Research, Uppsala SWE  
*Specific targeting of PDGFR $\beta$  kinase activity in host cells inhibits growth and angiogenesis of tumors with high PDGF-BB expression*

## POSTER SESSION I

- I-14** Alexander Bauer, Medical Faculty Mannheim, Heidelberg University, Mannheim, GER  
*Von Willebrand factor fibers in tumor vessels of Malignant Melanoma promote thrombosis via tumor cell-secreted VEGF-A*
- I-15** Ann-Helen Willrodt, ETH Zurich, Zurich, SUI  
*Novel role of ALCAM in tumor angiogenesis and developmental angiogenesis*
- I-16** Courtney König, DKFZ, Heidelberg, GER  
*Stromal cell expressed Endosialin promotes breast cancer metastasis*
- I-17** Amparo Acker-Palmer, University Frankfurt, Frankfurt, GER  
*EphrinB2 repression through ZEB2 mediates tumour invasion and anti-angiogenic resistance*
- I-18** Marina Lesina, TU Munich, Munich, GER  
*Inactivation of RelA identifies IL-8/KC/CXCR2 as a critical axis to control pancreatic carcinogenesis through mediating senescence and immune surveillance*
- I-19** Mohamed Alhamdani, DKFZ, Heidelberg, GER  
*Mapping the functional proteomics communication between different cell types in pancreatic cancer microenvironment*
- I-20** Melanie Boerries, DKTK Freiburg/DKFZ, Freiburg, GER  
*Tumor-stroma interaction in Melanoma is characterized by the tumor phenotype*
- I-21** Devanjali Dutta, DKFZ-ZMBH Alliance, Heidelberg, GER  
*Regional cell-specific transcriptome mapping reveals the regulatory complexity of the adult Drosophila midgut*
- I-22** Robert Eibl, Alumni DKFZ, Heidelberg, GER  
*Single-molecule resolution of chemokine-mediated activation of integrins with atomic force microscopy (AFM)*
- I-23** Guillem Genové, Karolinska Institute, Stockholm, SWE  
*Tumor pericytes regulate myeloid-derived suppressor cell recruitment via IL-6*
- I-24** Johanna Klein, University Hospital Essen, Essen, GER  
*Induction of immunomodulatory cell death by synthetic RNA mimetics*
- I-25** Sandra Klusmeier, Karlsruhe Institute of Technology (KIT), Karlsruhe, GER  
*High systemic VEGF-C levels lead to a specific neutrophil accumulation in the lung and promote metastasis in a syngeneic rat breast cancer model*
- I-26** Laura Pisarsky, University of Basel, Basel, SUI  
*Targeting metabolic symbiosis to overcome resistance to anti-angiogenic therapy*
- I-27** Véronique Orian-Rousseau, Karlsruher Institute of Technology (KIT), Karlsruhe, GER  
*CD44v6 co-receptor function for Met and VEGFR-2 is involved in pancreatic tumorigenesis and metastasis*

## POSTER SESSION I

- I-28** Martina Seiffert, DKFZ, Heidelberg, GER  
*Targeting dysfunctional myeloid cells delays disease development and improves immune function in a mouse model for Chronic Lymphocytic Leukemia*
- I-29** Sören Twarock, Universitätsklinikum Düsseldorf, Düsseldorf, GER  
*Increased hyaluronan production as a result of partial insulin resistance – a link between diabetes and cancer*
- I-30** Huihui Li, Institute of Pathology, LMU Munich, Munich, GER  
*IL-6R/STAT3/miR-34a feedback loop promotes EMT-mediated colorectal cancer invasion and metastasis*
- I-31** Sonia Velásquez, Medical Faculty Mannheim, Heidelberg University, Mannheim, GER  
*Short-Term Hypoxia Supports NK cell Activities: Potential Role for Anaerobic Glycolysis in IL-15 Priming*
- I-32** Frederik Wein, Institute of Cell Biology (Cancer Research), Essen, GER  
*The immunosuppressive features of T cells in the microenvironment of Hodgkin lymphoma*
- I-33** Yan Stein, Weizmann Institute of Science, Rehovot, ISR  
*Mutant p53 modulates the signal of stromal-secreted hepatocyte growth factor (HGF) to endow cancer cells with drug resistance*

## POSTER SESSION II

Tuesday, September 29

17:45 - 19:30 Posters # II-1 to II-33 are displayed in the foyer

- II-1** Fahad Benthani, The Kinghorn Cancer Centre, Darlinghurst, AUS  
*MCC deficiency disrupts cell-cell adhesion and increases the invasiveness of colon cancer cells*
- II-2** Christina Mertens, Goethe-University Frankfurt, Frankfurt, GER  
*Macrophage iron homeostasis and polarization during breast cancer progression*
- II-3** Vivien Freißen, University of Freiburg, Freiburg, GER  
*The influence of the EMT inducer Snail1 on stem cell properties of colorectal cancer cells and the intestinal epithelium*
- II-4** Sarah Lang, University of Freiburg, Freiburg, GER  
*Comparative analysis of diverse Rho GTPases and their contribution to breast tumor progression*
- II-5** Pablo Bellvis, DKFZ, Heidelberg, GER  
*Role of histone mutations in brain tumor*
- II-6** Honglei Weng, Medical Faculty Mannheim, Heidelberg University, Mannheim, GER  
*Decreased Smad3 phosphorylation at linker serine 213 is associated with poor prognosis of patients with intrahepatic cholangiocarcinoma*
- II-7** Hendrike Knaack, Lennart Lenk & Fabrice Viol, UKSH Kiel / Inst. for Experimental Medicine, Kiel, GER  
*Sleep is the enemy: Cellular dormancy and cancer stem cell properties are influenced by hepatic alterations in disseminated pancreatic ductal epithelial cells*
- II-8** Iacovos Michael, EPFL, Lausanne, SUI  
*Dissecting the role of microRNAs during metastasis of pancreatic neuroendocrine tumors*
- II-9** Katja Breitkopf-Heinlein, Medical Faculty Mannheim, Heidelberg University, Mannheim, GER  
*The role of bone morphogenetic protein (BMP)-9 in healthy liver and liver cancer*
- II-10** Vladimir Ryabov, Medical Faculty Mannheim, Heidelberg University, Mannheim, GER  
*Stabilin-1 is expressed in human breast cancer and supports tumor growth in mammary adenocarcinoma mouse model*
- II-11** Huihui Li, Institute of Pathology, Munich, GER  
*IL-6R/STAT3/miR-34a feedback loop promotes EMT-mediated colorectal cancer invasion and metastasis*

## POSTER SESSION II

- II-12** Chiara Bardella, WTCHG, University of Oxford, Oxford, GBR  
*Expression of the neomorphic *Idh1R132H* mutation in the mouse brain causes sub-ventricular zone defects, with increased cellular proliferation and disordered migration*
- II-13** Marko Roblek, University of Zurich, Zurich, SUI  
*Endothelial *CCR2* regulates pulmonary metastasis*
- II-14** Magdolna Djurec, Centro Nacional de Investigaciones Oncológicas, Madrid, ESP  
*Reprogramming cancer associated fibroblasts as a therapeutic approach to fight against pancreatic cancer*
- II-15** Ulrike Stein, Max-Delbrück-Center for Molecular Medicine, Berlin, GER  
*MACC-mize metastasis restriction in solid cancers*
- II-16** Jagadeesh Gandla, Heidelberg University, Heidelberg, GER  
*Pronociceptive mechanisms of *miR-34c-5p* in cancer mediated pain*
- II-17** Till Acker, University Giessen, Giessen, GER  
**PHD3* controls lung cancer metastasis and resistance to *EGFR* inhibitors through *TGF $\alpha$**
- II-18** Yvonne Beiter, NMI Reutlingen, Reutlingen, GER  
*Profiling of cellular signal transduction pathways in ovarian cancer using Digi-West - a bead-based Western blot*
- II-19** Filip Bochner, Weizmann Institute of Science, Rehovot, ISR  
*A novel intravital imaging window for longitudinal imaging of orthotopic ovarian tumors in mice*
- II-20** Jasmin Meckler & Barbara Costa, DKFZ, Heidelberg, GER  
*Lack of *CD44* in the brain parenchyma impairs glioma cell invasion*
- II-21** Svenja Groeneveld, EPFL/ISREC, Lausanne, SUI  
*Effect of *Snail* overexpression in a mouse model of non-small cell lung cancer*
- II-22** Sreeharsha Gurrapu, IRCC Candiolo, Torino, ITA  
*Semaphorin 4C and Plexin B1/B2 signaling controls mesenchymal to epithelial transition in cancer cells*
- II-23** Wancai Yang, University of Illinois at Chicago, Chicago, USA  
*Tumor suppressor decorin inhibits colorectal cancer growth and metastasis through interacting with *E-cadherin*/*beta-catenin* signaling*
- II-24** Lenka Kyjácova, Institute of Molecular Genetics of the ASCR, Prague, CZE  
*Clinical dose of fractionated ionizing radiation induces viable, circulating tumor cells-like subpopulation in prostate cancer cells*
- II-25** Maria Llamazares Prada, DKFZ, Heidelberg, GER  
*Identification of *HIF2 $\alpha$*  as a novel regulator of human epidermal homeostasis*
- II-26** Iris Morath, Karlsruhe Institute of Technology (KIT), Karlsruhe, GER  
*Ligand specific recruitment of *CD44* isoforms in *ErbB* signaling*

## POSTER SESSION II

- II-27** Miryam Müller, Christian Albrechts University Kiel, Kiel, GER  
*A disintegrin and metalloprotease 10 (ADAM10) is a central regulator in progenitor cell driven liver fibrosis*
- II-28** Mariel Paul, Medical University of Vienna, Vienna, AUT  
*Snail bypasses senescence and blocks the p16-Rb pathway to drive pancreatic cancer progression*
- II-29** Roberto Ronca, University of Brescia, Brescia, ITA  
*Stromal delivery of long Pentraxin-3 impairs FGF/FGFR-dependent tumor growth and metastasis*
- II-30** Dirk Schmidt-Arras, Christian Albrechts University Kiel, Kiel, GER  
*A disintegrin and metalloprotease (ADAM) 17 in the metastatic niche is crucial for metastasis to the lung*
- II-31** Robin Schmitz, Heidelberg University, Heidelberg, GER  
*Gas6 and its TAM receptors as novel targets in colorectal cancer*
- II-32** Christian Veltkamp, Klinikum rechts der Isar/TU Munich, Munich, GER  
*PI3K signaling in pancreatic cancer progression and maintenance*
- II-33** Georg Sedlmeier, Heidelberg University, Mannheim, GER  
*Matrix-assisted autocrine signaling regulates stemness properties in melanoma cells through induction of Id1 and Id3 expression*

## SCIENTIFIC PARTNERS



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