

alumni



DKFZ Alumni have spread all over the world.

Brainstorming the Future

The future development of the Alumni Association was in the focus of a strategy workshop in late August. Based on previous Alumni activities the goal was to gather first ideas to increase the Association's membership numbers and standing. In lively sessions, the participants expressed their expectations without considering any reality constraints. The brainstorming event resulted in many interesting ideas to further increase the attractiveness of the Alumni Association. It is now up to its Board to review and prioritize the individual aspects.

1

Reprogramming the Epigenetic System

The area of clinical epigenetics is attracting increasing attention. Dysregulation of the epigenetic system can lead to reprogramming of normal cells into cancer cells. The molecular understanding of epigenetic errors is highly relevant from a therapeutic point of view. The scientific lectures of the 7th General Alumni Meeting address this exciting topic featuring international experts. Find out more about further aspects of the ambitious program of the meeting scheduled for June 2016.

2+3

Fighting Lung Cancer

The new Division Molecular Thoracic Oncology aims to unravel the molecular mechanisms behind pathogenesis and treatment failure in lung cancer, the leading cause of cancer-related mortality. Supported by an extensive collaboration network of researchers and medical doctors within Heidelberg, the team of researchers employ transgenic mouse models and highly innovative 3D *in vitro* culture systems in order to dissect the intratumor heterogeneity, microenvironment, immunology and therapy resistance of lung neoplasms.

7

editorial

Dear Alumni, Colleagues, and Friends,

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In recent years, the Board of the Alumni Association has implemented several initiatives in order to further enhance the impact and standing of the Association. One prominent strategy has been to increase the membership by encouraging younger DKFZ investigators, particularly PhD candidates and post-docs, to join the Association as “prospective Alumni”. This successful strategy has resulted in a continued and substantial increase of membership and, as an additional benefit, in a lively and pleasant atmosphere at Alumni events.

In order to find out which additional strategic approaches could be beneficial for promoting the Alumni Association, the Board has organized a “Strategy Workshop” guided by a professional moderator (p. 1). Participants were DKFZ internal and external Alumni, all very motivated to suggest future strategies. At the same time, we were interested to determine how far away current Alumni activities were from those suggested. As can be expected from such sessions, many ideas for future strategies were presented, and I am grateful to Lindsay Murrells and Barbara Janssens for sorting these into a “Summary Protocol”.

As Chairman of the Association I find it particularly rewarding that the main outcome of the workshop has been consensus to continue current activities as future strategic approaches, such as to increase the membership by encouraging young DKFZ investigators to join early on, and to involve the Association as a facilitator for Alumni to meet each other and to keep in contact with the DKFZ. In pursuit of these suggested strategies, the organization of local get-togethers as joint excursions to historical, cultural and industrial sites (initiated by Gerhard van Kaick and now continued by Wolfgang Schlegel) (ps. 12, 13), and distant get-togethers initiated by Lindsay Murrells as “Stammtisch” in international science regions (such as in London, p. 5) have produced many personal interactions among Alumni. The long term strategy will be to establish local chapters that, under the Association umbrella, organize scientific and social events – promising such activities are developing in Berlin under the strong leadership of Wolfhard Semmler (p. 8) and among the large

community of Alumni in China coordinated by Tianhui Thomas Chen. Bringing together Alumni and DKFZ staff is also the major aim of the motto-guided New Year’s Receptions (in 2014 “Chinese New Year”; in 2015 “A Taste of Latin America”), which have become quite popular. For 2016, we plan to organize a “Journey to India”, this time in an alliance with the DKFZ PhD Student Council coordinated by Juliane Hafermann. And finally, we will strengthen our support of young scientists, in particular by scientific awards such as the joint Alumni Association Award given last year to Nanina Föhr for working at the Weizmann Institute in Israel (p. 9), or the Alumni DKFZ Cancer Letters Award for International Scientists, planned to be presented on the next General Alumni Meeting in 2016 (p. 3).

The strategy workshop has produced a couple of additional ideas, which will be discussed by the Association Board members. The design and realisation of a monthly “Alumni News” is already in the talented hands of Susanne Schunk. In future Alumni Newsletters, there will also be presentations of new research groups and their profile (see p. 7), which should be of added value to Alumni as they inform about innovative scientific approaches and upcoming events within the “DKFZ Family” – a term established by Wolfhard Semmler (p. 8). The possible implementation of other suggestions will depend largely on the availability of adequate financial and personal resources. Your donation will help us to perform our current activities and to explore additional directions. You can be sure that we will use your contribution wisely. We trust that the strategic approaches of the Alumni Association are an important instrument to assist in the enhancement of the DKFZ corporate identity and, beyond, to increase the emotional relationship of DKFZ Alumni to their home institution. I thank all contributors to this new Alumni Newsletter, Dagmar Anders has given individual contributions an elegant and creative touch. Great thanks also to my fellow Board Members for their wonderful input to Alumni matters throughout this year.

Wolfgang Schlegel

workshop

Ambitious Ideas for the Future of Alumni DKFZ

by Axel Wiest

In late August 2015, several DKFZ Alumni met with Alumni Board members for a strategy workshop at the Communication Center of the DKFZ. The objective was to gather first ideas to increase the Association's membership base and standing as well as first steps until the year 2020.

In order to lay a foundation for discussion, Dr. Barbara Janssens, PhD Career Manager at the DKFZ and Alumni Board Member, presented a brief history of the Association, including the development of its membership (Figure 1), and an overview of its current activities and reach based on information kindly provided by Elfriede Mang (Table 1). Furthermore, Barbara Janssens offered relevant insights into the current membership status and the future potential. Of 3,000 total DKFZ employees about 1,000 are scientists, with an annual turnover of about 25 percent contributing to a major part of DKFZ Alumni. Non-scientific employees contribute in large part to Association members who are currently at DKFZ. The estimated number of scientists who left the DKFZ since 2005 is about 3,000. In comparison, the Association currently has about 700 members of which 540 have left the DKFZ ("real Alumni"), representing about 18 percent of the above mentioned potential of 3,000. An extrapolation of the annual turnover provides an estimate of 4,500 "potential DKFZ Alumni" in 2020.



Discussing on expectations, ideas and future perspectives for Alumni DKFZ: Andreas Chiochetti (left), Barbara Janssens, and Thomas Leitfeld.



The unrestricted brainstorming of the workshop teams resulted in further strategies for the future development of the Association (from left): Wolfgang Schlegel, Hedwig Deubzer, Lindsay Murrells, and Dagmar Anders.

In the following session, the participants expressed their expectations of the future Alumni Association without considering any reality constraints. The ideas ranged from increasing the DKFZ network opportunities, e.g. career options, mentoring, finding-a-colleague, to strengthening the DKFZ brand, public lectures, member-only activities, grants, and to offering improved information exchange with and access to

the DKFZ, its groups and facilities. In sum, the workshop resulted in many excellent ideas to further increase the attractiveness of the DKFZ Alumni Association, which will be reviewed and prioritized by the Alumni Board in upcoming meetings. The Board will report to the membership at large at the General Assembly in June 2016. Of course, additional ideas are very welcome!

The Alumni Association in Numbers

Figure 1: Membership Development

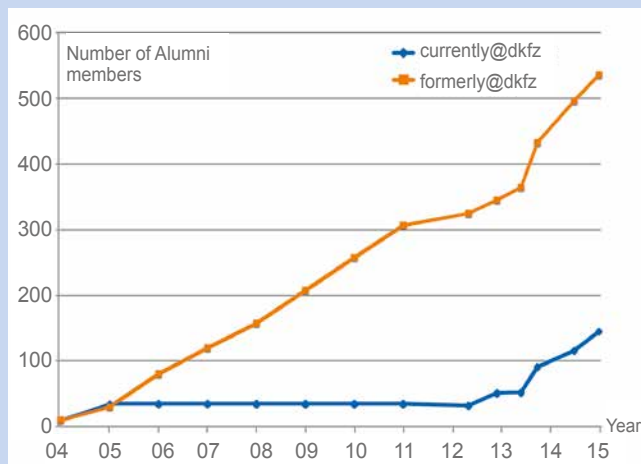


Table 1: Alumni Activities

Alumni Activities 2004-2015	Participants
Alumni Newsletters 2/yr since 2004	1700
General Alumni Meetings 2004 / 6 / 8 / 10 / 12 / 14	approx. 160
New Year Receptions 2004-2012	approx. 80
2013 (China)	170
2014 (Latin America)	220
AACR Reception 2004-2015	approx. 100
Excursions International Scientists 2/yr since 2005	40-50
Alumni Club Heidelberg 2/yr since 2005	50-100
Get-togethers 4/yr since 2014	15

meeting

7th General Alumni Meeting on June 9 – 11, 2016

DKFZ Heidelberg

The forthcoming Alumni Meeting provides an excellent opportunity for cancer researchers and clinicians to share experiences of the past and to discuss visions for the future.

In the session Mentoring on Thursday, Adelheid Cerwenka, Susanne Weg-Remers and Hai-kun Liu will focus on different kinds of career opportunities in the cancer field. Additionally, Christian Tidona will introduce BioMed X. The Innovation Center is an exciting new collaboration model at the interface between academia and industry.

the DNA itself as well as wrapping histone proteins. Sequencing of cancer genomes of different tumor diseases has demonstrated that mutations in components of the epigenetic machinery result in deregulated activity of genes with functions like growth regulation. Further, dysregulation of the activity status of the epigenetic system can lead to reprogramming of normal into cancer cells (dedifferentiation). The molecular understanding of epigenetic dysregulation of the genome is highly relevant from a therapeutic point of view, as there is an increasing num-

patients to epigenetic drugs and to explore a rational combination of this new class of drugs with other therapeutic modalities.

The invited speakers are internationally recognized scientists who will lecture on the relevance of epigenetic research to get more insight into the etiology and treatment of cancer.

Further, you shouldn't miss the poster presentations of young scientists on recent research findings which will be concluded with an Award Ceremony. Beside three poster prizes of 500 Euro, the DKFZ Alumni/Cancer Letters Award for International Scientists endowed with 5,000 Euro will be presented during the Reception on Friday afternoon. International scientists may submit their application in spring 2016. A reminder will be forwarded early in 2016 to all DKFZ Alumni and current scientists via e-mail.

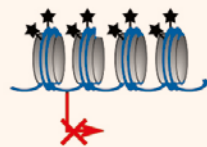
You may also take advantage of the opportunity to exchange with current and former colleagues in a less formal way during both the reception and the excursion to regional sites in Darmstadt and Heppenheim (for details, please see page 4) that conclude the 7th General Alumni Meeting on Saturday.

We look forward to welcoming you in Heidelberg next June

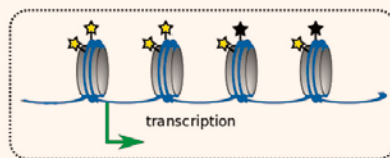
Manfred Schwab

Epigenetic regulation

normal cell: histone modifications (closed chromatin configuration)



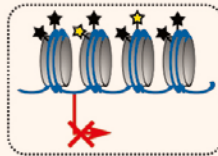
cancer cell: loss of histone methylation



normal cell: histone modifications (open chromatin configuration)



cancer cell: loss of histone acetylation



acetyl group ★ methyl group ★ transcription → no transcription ✗

The topic of the Scientific Symposium on Friday is "Clinical Epigenetics", an area that is attracting increasing attention and importance. The human genome is encoded by the DNA sequence. Alterations in genes (mutations) are primarily responsible for the onset of many diseases including cancer. The functional status of the genome, i.e. the pattern of genes with on and off status, is controlled by a packaging machinery that regulates accessibility of genetic information to the reading machinery. This control system summed up by the expression epigenetics, is located outside the DNA and essentially consists of chemical modifications of

ber of drugs that are able to interfere with epigenetic control mechanisms. These include, among others, inhibitors of DNA methyltransferases, histone deacetylases and bromodomain-inhibitors.

Based on clinical trials some of these drugs already have been approved for the treatment of several diseases, such as myelodysplastic syndromes (MDS) as well as certain leukemias. Currently the biggest challenge in the field is to identify biomarkers for predicting mechanism-based effectiveness of epigenetically-active drugs to certain tumor diseases. Further, it's pivotal to enable a targeted assignment of

Travel Grants for Young Alumni

We are glad to announce travel grants for young Alumni within Germany and from abroad (travel costs and accommodation for four nights). Travel grants will be awarded for the most outstanding poster abstracts.

Deadline: March 10, 2016

Please, send your application to Elfriede Mang (e.mang@dkfz.de) and attach your CV and list of publications. The poster abstract must be submitted electronically: <http://alumni2016.dkfz.de/abstracts.aspx>

Thursday, June 9, 2016, DKFZ, Communication Center

- 12:45 Registration, mounting of posters (Foyer)
- 13:00 **WELCOME** (Lecture Hall)
Manfred Schwab, DKFZ Heidelberg
- MENTORING**
Chair: Barbara Janssens, DKFZ Heidelberg
- 13:15 **Adelheid Cerwenka**, DKFZ Heidelberg
The joys and challenges of an international academic scientific career
- 14:00 **Susanne Weg-Remers**, DKFZ Heidelberg
Career perspectives in science management and science communication
- 14:45 **Hai-kun Liu**, DKFZ Heidelberg
A personal view of how to pursue an academic career in the DKFZ
- 15:30 **Christian Tidona**, BioMedX Heidelberg
Biomedical innovation at the interface between academia and industry – the value of mentorship
- 16:15 *Coffee Break*
- 17:00 Poster Session (Foyer)
- 18:30 *Departure for Kulturbrauerei*
- 19:30 *Dinner at Kulturbrauerei, Heidelberg (speakers and registered Alumni members)*

Friday, June 10, 2016, DKFZ, Communication Center

- 09:00 **GENERAL ASSEMBLY ALUMNI ASSOCIATION**
(Conferene Room K1/K2, for Alumni members)
- Agenda**
- Approval of the Agenda and of the minutes of the previous General Assembly
 - Report on the Activities of the Alumni by the Chairman
 - Report by the Treasurer
 - Report by the Auditors
 - Approval of the Board's Actions
 - Election of Board Members
 - Election of Auditor
 - Honorary members
 - Any other business
- 10:00 *Coffee Break*

Friday, June 10, 2016, DKFZ, Communication Center

- CLINICAL EPIGENETICS** (Lecture Hall)
Chair: Angela Risch, University of Salzburg
- 10:30 **Olaf Witt**, DKFZ, Heidelberg
Dirty drugs meet precision medicine: HDAC inhibitors
- 11:15 **Stefan Pfister**, DKFZ, Heidelberg
DNA methylation fingerprints for accurate tumor classification
- 12:00 **Toshikazu Ushijima**, Natl. Cancer Center Res. Inst., Tokyo
Epigenetic field formation by chronic inflammation, and its application to precision risk diagnosis
- 12:45 *Lunch Break (Poster Session continued)*
Chair: Angela Risch, University of Salzburg
- 14:30 **Jean-Pierre Issa**, Temple University, Philadelphia
Epigenetic Therapy
- 15:15 **Manel Esteller**, Bellvitge Biomedical Research Inst., Barcelona
Cancer Epigenetics: From knowledge to applications
- 16:15 *Coffee Break*
- RECEPTION** (Foyer)
- 16:30 Welcome Address
- 16:45 Awarding Ceremony (DKFZ Alumni/Cancer Letters Award for International Scientists and 3 Poster Prizes)
- 17:15 Collegium Musicum of the Heidelberg University Chamber Choir
- 17:30 **Michael Boutros**, DKFZ, Heidelberg
Recent key developments at the DKFZ
- 18:00 **Marius Schwabenland**, Alumni Heidelberg Life-Science Lab e. V., Heidelberg
A sustainable model for supporting young scientists: the Alumni of the Heidelberg Life-Science Lab e.V.
- 18:30 Collegium Musicum of the Heidelberg University Brass Orchestra
- 18:45 *Buffet*

meeting

Saturday, June 11, 2016

SOCIAL ACTIVITY

(Departure from the Communication Center)

09:00 *Bus trip to Darmstadt: Jugendstilmuseum (Art Nouveau) at Mathildenhöhe, lunch, guided visit to Heppenheim, Coffee at the Starkenburg*



Registration and Call for Abstracts

We ask all Alumni and current scientists of the DKFZ, friends and cooperation partners of the DKFZ, the Heidelberg Life-Science Lab, Heidelberg University and related research institutions who plan to participate in the meeting to register by **April 11, 2016**.

The first 40 registrants will have the opportunity to participate in a round table discussion with one of the speakers of the Session “Mentoring” during the coffee break on June 9.

All Alumni or other participants who intend to present a poster should submit the title and a short abstract by sticking to the deadline as well. Participation is free of charge. For registration and poster application, please complete the online form on <http://alumni2016.dkfz.de/registration.aspx>

Contact:

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phone +49 (0) 6221 42-4499 or

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A Compendium of Cutting-Edge Research

The position of the German Cancer Research Center as one of the leading biomedical institutions worldwide is based on its ability to rely on the experience and best practice of more than five decades and at the same time to show the flexibility to adapt to emerging challenges. The recently published compendium “Cancer Research at DKFZ 2015” gives a comprehensive overview of current developments in research and associated activities like core services, education and career management as well as the expansion of the collaboration network.

On 150 pages, the publication presents the divisions, junior groups and clinical cooperation units of the seven research programs. Each unit is represented by an abstract on ongoing investigations and a future outlook, complemented by a selection of essential publications.

In the compendium, the DKFZ also takes pride to present its two Nobel laureates and shows how topics like technology transfer and cancer information to the public add to the strength of the research institution. Located in Heidelberg,

a capital of biomedical sciences in Europe, the DKFZ profits from an environment of innovative and strong partner institutions. Thus, you are very welcome to find out what is new at the Center.



The compendium “Cancer Research at DKFZ 2015” is provided online as PDF file on www.dkfz.de/en/presse/publications/publikationen.html. A printed version is also available free of charge. Please, contact Anke Retzmann via e-mail (a.retzmann@dkfz.de) to order your personal hard copy.

events

New Year's Reception 2016 "A Journey to India"

February 18, 2016, 4.30 p.m.

DKFZ, Communication Center, Lecture Hall and Foyer

RECEPTION FOR INTERNATIONAL SCIENTISTS



A strategic alliance
with the PhD student council

SAVE
THE DATES

DKFZ Reception during the AACR Meeting 2016

April 18, 2016, 6.30 p.m.

New Orleans, Louisiana



London Calling by Franziska Schmidt



The 2nd DKFZ Alumni Meeting in London took place on September 17, 2015 with 11 participants. Alumni from London and Oxford met in a relaxing pub atmosphere and shared their experiences from their personal career paths and exchanged advice about living and

working in the UK. They were also very interested in news from the DKFZ and are keen to keep in touch with their colleagues in Heidelberg. Alumni get-togethers have so far taken place in Boston, London, San Francisco, Berlin, Zurich and Copenhagen.

If you are interested in joining the mailing list of an existing group or organizing a get-together in your city, please contact the Helmholtz International Graduate School for Cancer Research (HIGS) at higs@dkfz.de.

board news

From Research to Science Management

by Dagmar Anders

Michael Boutros studied biology and biochemistry with a fellowship of the “Studienstiftung des deutschen Volkes” at the Universities of Aachen, Witten/Herdecke and New York, and subsequently did his PhD at the European Molecular Biology Laboratory (EMBL) in Heidelberg. With a scholarship from the German Research Foundation (DFG), he then worked as a postdoc



at Harvard Medical School in Boston, USA. In 2003, he joined the DKFZ, where he established a “tenure track” junior research group with the support of the DFG Emmy Noether Program. Since 2008, he has been a professor at the University of Heidelberg and a division head at the DKFZ. In 2007, Boutros was honored with the Johann Zimmermann Cancer Research Award and in 2012, he received a 2.5 million Euro Advanced Grant by the European Research Council (ERC). Supported by a McCloy Academic Scholarship, Boutros additionally received a “Master of Public Administration (MPA)” from the Kennedy School of Government at Harvard University in 2001. Michael Boutros heads the DKFZ-Division of Signaling and Functional Genomics. Together with his team he uses human cells as well as various model organisms to study the complicated networks that play a role in carcinogenesis. Boutros has developed “high-throughput” methods that are used to elucidate the functions of thousands of genes simultaneously. This enables him to observe the impact of single interfering factors on signaling pathways or whole networks. His department is also pursuing research on new “genome editing” methods.

On September 1st, 2015, the DKFZ Board of Trustees confirmed Prof. Michael Boutros as the acting Scientific Director of the Management Board of the German Cancer Research Center. He is temporary successor to Prof. Otmar D. Wiestler, who became President of the Helmholtz Association in Berlin. Boutros will be leading the DKFZ jointly with the Administrative-Commercial Director, Prof. Josef Puchta.

Professor Boutros, as the acting Scientific Director of the DKFZ which projects do you consider of highest priority in the upcoming months?

One particular important area is the recruitment and career development of young researchers. As a leading international research institute, we need to provide excellent career opportunities for young scientists at all career stages – ranging from master and PhD students to tenure-track group leaders. How to recruit talented young scientists, offer them attracting training and mentoring programs and help them making the next steps in their careers is not only of paramount importance for our center, but also a topic for national science policy, including the next phase of the German excellence initiative.

Do you see any aspects that need a change? Which new strategies do you want to pursue?

To be attractive for the most promising talents – nationally and internationally – remains an important aim for the DKFZ. We need to constantly evaluate whether we are able to recruit and retain talents and established scientists at all levels and identify creative minds that pursue innovative approaches and shape the future of our center.

What were your experiences during the first 90 days as Scientific Director?

The first weeks were exciting, fascinating and very informative. It meant adapting changing perspectives and learning about – and sometimes also defending – research programs well beyond my own area of research. Further, there are matters of science policy within the Helmholtz Associa-

tion and beyond to take care of. The last weeks were a great learning experience.

How can the positions of a Scientific Director and a Division Head be managed simultaneously?

This is certainly not always easy. Fortunately, I have an excellent team in my division and they currently are working harder and help me with many issues. Nevertheless, besides the obligations as a Scientific Director, I try to schedule sufficient time for both my division and own research studies.

How do you rate the future aims and the current activities of the Alumni Association? How can the Association contribute to the international visibility of the DKFZ? Do you have further suggestions or ideas for the further development of the Alumni Association?

The Alumni Association with its approximately 700 members already does an excellent job. In my view, it will be important to develop strategies to further expand the membership and to get all DKFZ members “on board” who leave the Center. The alumni are ambassadors for our center and are a great international network. The activities of the Alumni Association provide excellent opportunities to maintain and further deepen the relations between our alumni worldwide, and additionally can stimulate new scientific collaborations. Alumni and the Alumni Association could also play an important role in the career development of young scientist, contributing expertise and networking opportunities.

On the Molecular Footprints of Lung Cancer

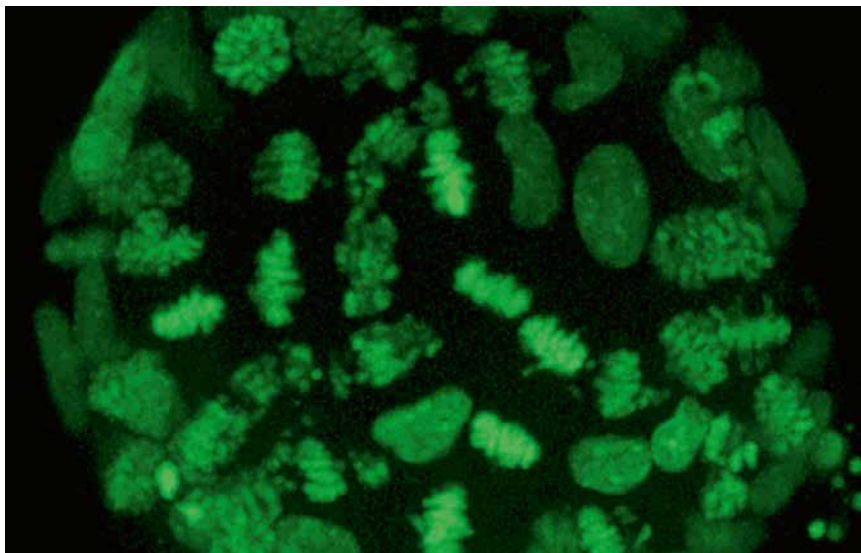
by Petros Christopoulos

Since a few months, the DKFZ family has a new member: the Division Molecular Thoracic Oncology headed by Rocio Sotillo. The unit was founded as a research collaboration together with the Thoraxklinik at the Heidelberg University Medical Center. It aims to unravel the molecular mechanisms behind pathogenesis and treatment failure in lung cancer, the leading cause of cancer-related mortality.

Metastatic lung cancer, which represents the majority of cases, remains incurable despite rapidly accumulating knowledge over the past decades. Even novel “targeted” therapies, like tyrosine kinase inhibitors directed against the EGFR and ALK oncogenes, have had virtually no impact on the long-term survival of these patients. In recognition of the increasing complexity in the field as well as of the urgent need for more efficient therapeutic strategies a basic

3D *in vitro* culture systems in order to dissect the intratumor heterogeneity, microenvironment, immunology and therapy resistance of lung neoplasms. An extensive network of collaborations with medical doctors and researchers at the Thoraxklinik, the National Center for Tumor Diseases (NCT) Heidelberg, the University Department of Pathology as well as with other specialized research groups in the DKFZ, including the fields of systems biology and immunology, will bring together exquisite bioscientific expertise with state-of-the-art medical oncology in a strong alliance against the deadliest malignancy.

It is a great honor and privilege for me to be part of this effort. As a clinical oncologist I have had ample first-hand experience of the extraordinary physical and emotional toll cancer takes on patients, their relatives and society as a whole. As a scientist I was always fascinated and attracted by the mystery be-



Primary lung epithelial cells from TetO-Mad2/CCSP-rtTA/H2B-GFP mice grown in 3D culture. Overexpression of Mad2 arrests cells in mitosis and leads to chromosome missegregation.

scientist with background in pharmacy was recruited through an international competition: Prof. Rocio Sotillo. The Spanish researcher and her group have already contributed outstanding work on cell cycle regulation, chromosomal instability and their impact on the initiation and propagation of cancer. As Head of the Division Molecular Thoracic Oncology Sotillo is now employing doxycycline-inducible transgenic mouse models and highly innovative

hind this dreadful diagnosis. Research has been a long-standing desire for me, a natural extension of my earlier choices to study medicine and specialize in hematology/oncology. Now I can pursue my scientific interests within the team of Rocio Sotillo in an international and vibrant community of an institution, where high-end infrastructure meets a decades-long tradition in cutting-edge cancer research. Working at the DKFZ feels like a dream coming true.

Petros Christopoulos graduated with excellent marks from the Medical School of the University of Athens in 2002 and later on gained experience during his medical service in an underserved area at the General Hospital of Tripolis in Greece and during his military service at the 401 General Military Hospital in Athens. In 2004, he took up a position as research assistant in the Department of Hematology-Oncology



Petros Christopoulos and Rocio Sotillo

at the Freiburg University Medical Center, then headed by Prof. Roland Mertelsmann. After two years at the Athens University Medical Center from 2006 to 2008, Christopoulos continued his work in Freiburg as a hematology/oncology fellow. With a “summa cum laude” degree as a medical doctor from the Faculty of Medicine at the University of Freiburg, he proceeded his career with several qualifications like the board certifications in Internal Medicine, Hematology, Medical Oncology, Emergency Medicine and Palliative Care. From 2010 to 2014, he participated as an investigator (Prüf- arzt) in several phase I, II and III clinical trials. In 2012, Christopoulos became staff hematologist/oncologist at the Department of Medicine II, Würzburg University Medical Center (Director: Prof. Hermann Einsele) and the Comprehensive Cancer Center Mainfranken (Director: Prof. Ralf Bargou), before he took up a respective position in January 2015 at the Department of Thoracic Oncology, Thoraxklinik at the Heidelberg University Medical Center (Head: Prof. Michael Thomas). Since July, he is also physician scientist at the newly established Division of Molecular Thoracic Oncology of the German Cancer Research Center headed by Prof. Rocio Sotillo.

alumni affairs

Membership in a Nutshell by Dagmar Anders

During his time at the DKFZ, Prof. Wolfhard Semmler enjoyed an excellent reputation as an outstanding DKFZ researcher and a valuable long-time companion in science. Even after his retirement in July 2013, Semmler has reassured to stay closely connected to the DKFZ: He will continue to serve the interests of the DKFZ as scientific ambassador in Berlin. The Alumni Board invited him to state his point of view on the Association's development and to suggest further ideas for its promotion.

Professor Semmler, how did you first become involved with the DKFZ?

During my Diploma studies in physics at the Hahn-Meitner-Institut Berlin (now named Helmholtz-Zentrum Berlin) at the end of the sixties and the beginning of the seventies I initiated an excursion to the famous physics lab CERN in Geneva. On our route was Heidelberg – and a visit to the newly founded German Cancer Research Center, located in the barracks in the Neuenheimer Feld 502, was almost a “must” for us.

This stop in Heidelberg turned out to be very interesting, because at that time we were not familiar with field biomedical research and thus, the visit introduced us to a complete new scientific approach. I will keep this visit in mind forever.

After finishing my medical studies at the Free University of Berlin I got deeply involved in the field of MR imaging and spectroscopy and especially did research on the first MR contrast media in the beginning of the eighties. It was at that time when I was offered the position of a medical doctor and physician scientist and as group-leader at the DKFZ “Institute of Radiology and Pathophysiology” (headed by Prof. Gerhard van Kaick). Of course, I was happy to accept. I used to work in this Department until the end of 1991, but left to take over the “Institut für Diagnostikforschung (IDF)” in Berlin as director and CEO. In 1999, I returned to the DKFZ as head of the Division of Medical Physics in Radiology.

What have you been doing over the years since you first came into contact with the DKFZ?

After finishing my thesis, I was working as a researcher in solid state nuclear physics at the University in Aarhus, the Rutgers University and Bell Laboratories/USA, and at the Hahn-Meitner Institute. Upon my return from the States, I studied medicine and thereafter started to work in biomedical research at the University Hospital in Berlin.



When did you decide to become a member of the Alumni Association?

Aside from my research activities I always committed myself in networking projects and strategic issues, e.g. the Israel cooperation or the Scientific Council of the DKFZ. Maybe it was due to those experiences that I was asked to become a member of the Alumni board in 2010, and subsequently I became familiar with the mission of the Alumni Association.

What do you like about the Alumni Association already and what are you looking forward to in the future?

Though having moved to Berlin I am still interested in Heidelberg and the development of the DKFZ, particularly in the new results of my former division and the Research Program Imaging and Radiooncology. I maintain close scien-

tific – and also personal – contacts with many of my former colleagues of the division and hopefully I can keep up and strengthen the contact to other former staff members of DKFZ. In this context, the Alumni Association is very valuable to me as it provides a lot of networking opportunities.

Are there additional benefits that the Alumni Association should provide to its members?

The Alumni Association already does a great deal to improve the contact between the members and informs them about recent and ongoing activities and events of the DKFZ. But what can the Alumni members do for the Association and for the DKFZ? I think it's also important to foster a culture of giving-back. The DKFZ is a world-renowned institution. Therefore, it should be an honor for every current, but also former member to be part of the DKFZ family. I wonder how we can improve the promotion of this idea among all Alumni and thereby increase their active participation in Alumni matters. Maybe additional meetings of DKFZ and alumni members in all places of the world – beside those already existing – could further strengthen the ties.

How can Alumni members get more involved into the Association's activities?

Personally, I highly esteem the local “Stammtische” in places like Boston, Zurich or London. Therefore, I will organize such a meeting of the Berlin Alumni in the near future. And I would appreciate if many other Alumni members followed these examples.

summer school

Awarded with A Lifetime Experience by Marius Schwabenland and Nanina Föhr

Offering extracurricular opportunities to talented high school students with particular interest in math and science is the major goal of the Heidelberg Life-Science Lab established at the DKFZ in 2000. The multi-year program includes lectures, scientist-mentored work groups, weekend seminars, science academies and research projects. Additionally, it is already a long tradition to send high school graduates to the “Dr. Bessie F. International Summer Science Institute”, a summer school in Rehovot, Israel. By applying the imparted knowledge and skills from Heidelberg, about thirty students got the opportunity to work in distinguished working groups at the Weizmann Institute during the last years.

This year’s Alumni Associations Prize (launched by Alumni DKFZ Heidelberg and Alumni of the Heidelberg Life-Science Lab) was awarded to Nanina Föhr enabling her to take part in this program.



Awardee Nanina Föhr



The Weizmann Institute of Science

The Summer Science Institute allows recent high school graduates to gain insights into cutting-edge science by having them conduct a month-long research project together with a scientist at the Weizmann Institute. The lab time is interspersed with various lectures, social activities and trips around the country, presenting participants with a unique chance to experience the rich and complex culture of Israel.

Together with my Spanish lab partner, I coded a reconstruction algorithm for Z and W bosons in the ATLAS detector at the CERN in preparation for the new heavy-ion run planned for the end of this year. After familiarizing ourselves with the relevant concepts and tools, we started adjusting the different

building blocks of the reconstruction process. Initially, I focused on the reconstruction of the Z boson, which involved identifying and pairing up muons, the decay products of Z bosons of interest to my project. A few weeks later I was able to plot the reconstructed mass of the muon pairs and was happy to see the characteristic peak around the theoretically predicted mass

of the Z boson. Finally, we documented our work in a scientific article and prepared a presentation for the final colloquium.

Visits to cities and landscapes in Israel includ-

ing Haifa, Tel Aviv and Jerusalem proved to be fascinating. They were packed with renowned sights like the Western

Wall and the Church of the Holy Sepulcher as well as unique opportunities like visiting a Druze community. In retrospect, I have gained more than I can say, both as an aspiring scientist and personally. I learned a great deal about heavy-ion physics in my research project; I learned even more about the scientific endeavor in general during my time at the Weizmann Institute; by traveling through Israel I began to look at religion and culture in a new way, and last, but not least, I started off friendships with people from all around the world that will hopefully last a lifetime. I am grateful to both the Alumni DKFZ Heidelberg as well as the Alumni of the Heidelberg Life-Science Lab for making this month possible for me.



Awards people



The consulting company Ernst and Young dedicated the title „Entrepreneur of the year 2015“ to Nobel laureate **Prof. Stefan Hell** and his colleague **Dr. Gerald Donnert** from Göttingen for their innovative capacity and the exemplary managerial commitment. In 2012, the two scientists established the spin-off company Abberior Instruments GmbH from the DKFZ and the MPI-BPC in order to accelerate the transfer of a highly innovative technology into industrial applications. The business concept is based on Hell’s groundbreaking scientific findings in light microscopy. The physicist who is Director of the Max Planck-Institute of Biophysical Chemistry (MPI-BPC) in Göttingen and at the same time heads the DKFZ Division Optical Nanoscopy, developed a method to overcome diffraction limits and to increase the resolution of common light microscopes ten-fold.



This year’s Fritz-und-Ursula-Melchers Postdoc-Prize endowed with 1,500 Euro acknowledges the investigations of **Dr. Katrin Busch**, Division of Cellular Immunology. She was able to establish a mouse model that allows to pursue the fate of hematopoietic stem (HS) cells and their progeny directly in the organism. Previously, research on the physiological function of HS cells in the bone marrow made use of stem cell transplantations or *in vitro* studies.



Dr. Viola Nordström, Division of Cellular and Molecular Pathology, received the 40,000 Euro Erwin Niehaus Prize. The Alzheimer Research Initiative acknowledged her basic research on the cause of Alzheimer’s disease. Special lipid compounds known as gangliosides have an effect on cell metabolism and are therefore linked to a number of diseases including cancer. They also appear to play a significant role in the damage caused by amyloid plaques and the toxicity of the amyloid precursors. Nordström is investigating this role of the gangliosides in depth and hopes to gain fundamentally new insights from her research into Alzheimer’s development. The findings may provide new approaches to prevention and treatment of this serious disease.



Prof. Andreas Trumpp, Division Head at the DKFZ and Managing Director of the Heidelberg Institute for Stem Cell Technology and Experimental Medicine (HI-STEM), has received this year’s Swiss Bridge Award for his research on cancer stem cells that have entered the bloodstream. Based on a so-called “liquid biopsy”, i.e. the total molecular characterization of all tumor components in the blood, he wants to elucidate the underlying

genetic changes and the specific RNA molecules and proteins. The identification of the specific features of cancer stem cells might lead to improved targeted therapies. Ideally, the treatment solely effects cancer stem cells and thereby prevents the development of metastases.

Trumpp shares the award endowed with 500,000 Swiss francs with Joerg Huelsken from the École polytechnique fédérale de Lausanne. The molecular biologist plans to use the prize money to finance a large-scale project that aims to characterize breast cancer stem cells in the next three years. The goal is to develop novel combination therapies that are also effective against metastases. Trumpp will pursue this project in collaboration with Andreas Schneeweiss of the National Center for Tumor Diseases (NCT) Heidelberg.

Prof. Wolfgang Wick, Head of the Clinical Cooperation Unit Neurooncology and one of the directors of the National Center for Tumor Diseases (NCT) Heidelberg, has been awarded the translational part of the German Cancer Prize endowed with 7,000 Euro. The focus of his research is the treatment of brain tumors, especially glioblastomas. He and his team are searching for diagnostic, prognostic and



predictive biomarkers in malignant gliomas. A second focal point is the elucidation of molecular mechanisms of various targeted therapies of glioblastomas.

Wick is also studying the development of tailor-made immunotherapies of malignant brain tumors. The German Cancer Society and the German Cancer Foundation also acknowledged him for initiating key clinical trials in neurooncology in Germany and Europe.

people



PD Angelika Riemer was awarded this year's Ingrid zu Solms-Prize for Medicine endowed with 10,000 Euro. The Head of the Junior Group Immunotherapy and Prevention received the distinction for her habilitation treatise on the improvement of tumor immunotherapy. While previous vaccination methods were often based on passive immunization, her approach makes use of a vaccine that directly triggers an immune response resulting in immuno-specific antibody generation. The Ingrid zu Solms-Foundation supports women in science and biannually acknowledges outstanding projects of basic research in medicine with the above mentioned award.



The neuropeptide oxytocin affects the nervous system and thus modulates human behavior patterns. **Dr. Valéry Grinevich**, Head of the Chica and Heinz Schaller Research Group Neuropeptides, wants to unravel the molecular base of this modulatory effect. The international Human Frontier Science Program (HFSP) supports the efforts of Grinevich and his collaboration partners from the USA, Israel and France with 450,000 US Dollar annually for a period of three years.

Obituary

Dr. Wolfgang Maier-Borst, former head of the Division of Radiochemistry and Radiopharmacology, passed away at the age of 82. Maier-Borst, a man of "the first hour" at the DKFZ, was officially nominated to build up a modern department for radiochemistry. Together with Prof. Walter Lorenz, head of the Division of Physics, a research reactor and a cyclotron for research and production of radio-tracers were installed. The institute developed into one of the leading centers of nuclearmedicine in Germany and Europe. Further, Maier-Borst recognized many problems of the growing DKFZ like the insufficient clinical connection, and struggled hard to overcome these. Altogether, we may state with deep respect, that Dr. Wolfgang Maier-Borst rendered outstanding services to the development of the DKFZ.

2/2015

New Alumni Members

Dr. Mohammed Abba, Mannheim // **Dr. Harald Aamot**, Walldorf // **Sara Ahmed**, DKFZ, Heidelberg // **Prince Amponsah**, DKFZ, Heidelberg // **Dagmar Anders**, DKFZ, Heidelberg // **Prof. Bernd Arnold**, Heidelberg // **Sebastian Baars**, DKFZ, Heidelberg // **Christina Beisel**, DKFZ, Heidelberg // **Dr. Julia Bitzer**, Wiesloch // **Olga Bogatyrova**, DKFZ, Heidelberg // **Sophie Boos**, DKFZ, Heidelberg // **Dr. Michael Brehler**, DKFZ, Heidelberg // **Dr. Dirk Brenner**, Luxembourg // **Dr. Frank Burkart**, Heppenheim // **Dr. Felipe Castro**, Basel, Switzerland // **Dr. Lukas Chavez-Kuss**, DKFZ, Heidelberg // **Sifan Chen**, DKFZ, Heidelberg // **Zhou Cheng**, DKFZ, Heidelberg // **Dr. Barbara Costa**, DKFZ, Heidelberg // **Giovanni Dalmasso**, DKFZ, Heidelberg // **Katharina Deeg**, DKFZ, Heidelberg // **Dr. Hedwig Deubzer**, Berlin // **Ali Doaa**, DKFZ, Heidelberg // **Konstantina Falida**, DKFZ, Heidelberg // **Dr. Ricarda Gaentzsch**, Oxford, UK // **Dr. Ann-Christin Gaupel**, DKFZ, Heidelberg // **Felix Geist**, DKFZ, Heidelberg // **Klara Gießler**, DKFZ/NCT, Heidelberg // **Dr. Karin Greulich-Bode**, DKFZ, Heidelberg // **Sebastian Grimm**, Zürich-Schlieren, Switzerland // **Dr. Dario Gutierrez Mejia**, Cambridge, USA // **Juliane Hafermann**, DKFZ, Heidelberg // **Dr. John Hazin**, Heidelberg // **Johannes Heidbüchel**, DKFZ, Heidelberg // **Dagmar Jarek**, Berlin // **Dr. Corijn Kamerling**, London, UK // **Prajakta Khalkar**, DKFZ, Heidelberg // **Nadine Kirsch**, DKFZ, Heidelberg // **Dr. Zoltán Kis**, London, UK // **Jaiying Kong**, DKFZ, Heidelberg // **Sebastian Kruse**, DKFZ, Heidelberg // **Dr. Marina Laplana**, DKFZ, Heidelberg // **Dr. Janet Lei**, Oxford, UK // **Dr. Hassan Moeini**, DKFZ, Heidelberg // **Rajagopal Murugan**, DKFZ, Heidelberg // **Jasmine Neamat-Allah**, DKFZ, Heidelberg // **Dr. Eva Nievergall**, DKFZ, Heidelberg // **Jens Pahl**, DKFZ, Heidelberg // **Dr. Sreejim Rajasekharan**, DKFZ, Heidelberg // **Ignaz Reicht**, DKFZ, Heidelberg // **Dr. Doris Schneller**, DKFZ, Heidelberg // **Dr. Christoph Schröder**, Heidelberg // **Dr. Roberta Scognamiglio**, DKFZ, Heidelberg // **Deniz Senyilmaz**, DKFZ, Heidelberg // **Jingping Shi**, DKFZ, Heidelberg // **Aleksandar Stojic**, Heidelberg // **Dr. Christian Stoy**, Karlsruhe // **Tibor Szekeres**, DKFZ, Heidelberg // **Marcel Tiebe**, DKFZ, Heidelberg // **Norbert Volkmar**, Oxford, UK // **Dr. Kasia Weina**, DKFZ, Heidelberg // **Dr. Andreas Wetscherek**, London, UK // **Dr. Thomas Wetzel**, Heidelberg // **Hans-Peter Wieser**, DKFZ, Heidelberg // **Dr. Stefan Wilkening**, DKFZ, Heidelberg/NCT // **Lucie Wolf**, DKFZ, Heidelberg // **Dr. Andrea Woltmann**, DKFZ, Heidelberg // **Dr. Yonghe Wu**, DKFZ, Heidelberg // **Dr. Huaping Xie**, Wuhan, China

sight visit

An Up-date of Latest EU Politics and Alsatian History

by Susanne Schunk



The Parliament building in Strasbourg

In early October 2015, the Alumni Association invited the PhD students and PostDocs of the DKFZ to an excursion to Strasbourg. The aim was to give the young scientists the opportunity to network with other young scientists as well as with senior members of the Alumni Association. This was also a good chance to leave the lab behind for a day and to visit the European Parliament and the picturesque city of Strasbourg.

Early at 7:30 am, our group of more than 40 international young scientists (from Italy, China, Taiwan, Brazil, Ghana and Russia and Germany) took the bus to Strasbourg. On the way, Prof. Gerhard van Kaick gave a short overview of the history of the European Union. The visit to the European Parliament followed an invitation by Daniel Caspary, Member of the European Parliament (MEP) since 2004. He is one of the delegates of the electoral district that includes the city of Heidelberg. The district of 2.7 Million inhabitants is represented by four MEPs from different parties.

Sven Maier, the communications officer of Daniel Caspary, warmly welcomed our group and gave a tour of the building before entering the plenary session. The session topic could not have been more up-to-date as the MEPs discussed the current situation of the refugees entering Europe. The session was concluded by the President of the European Commission, Jean Claude Juncker and by

the President of the European Council, Donald Tusk. It was a very special occasion to see these prominent politicians from the visitors' gallery. After almost an hour in the plenary hall, the group met Daniel Caspary who explained his work in the European Parliament in more detail. During the week the plenary sessions that take place from 09:00 am until 11:00 pm are attended by only a few MEPs. This is due to the fact that the delegates attend only the plenary when their field of expertise is on the agenda and when the daily votes are taken at 12:00 noon. Moreover, the plenary is attended by all MEPs when celebrity guests like Heads

of State or the Pope visit the Parliament. What a pity that our group obviously had come a day too early, otherwise there would have been the chance to see the Spanish King as well as Angela Merkel and Francois Hollande on the red carpet of the Parliament.

After a quick lunch at the cafeteria of the Parliament, the group headed for the old town of Strasbourg and, after a short walk, a boat tour on the river Ill gave a good impression of the city's history. To our great joy, the trip was commented in twelve languages so that everybody could choose his language. After the boat tour there was time to visit the Strasbourg Cathedral and to stroll around the historic center. Quite popular among the group members was shopping for French specialties: They bought baguette, brioche, cheese and pastries to take home to the family and lab colleagues.

At the conclusion before arriving Heidelberg, Prof. Manfred Schwab thanked Elfriede Mang and Professor van Kaick for excellent organization of this memorable tour. Gerhard van Kaick informed us that after ten years of commitment, the organization of such tours will be passed on to another member of the Alumni Board, namely Prof. Wolfgang Schlegel. He has already indicated his readiness to take over, assisted by Barbara Janssens.



The picturesque historic center of Strasbourg

excursion

Journey to the Stars by Gretchen Wolf and Peter Stromberger

There are many sites, new and old, to visit when staying in Heidelberg. With several research institutions focused on medicine and science, the chance to see the new House of Astronomy at the Max Planck Institute should not be missed. In the End of September 2015, approximately 20 new members of the DKFZ as well as members of the Alumni Association were invited on a tour to the institution and later for an informal get-together at one of the city's oldest restaurants "Zum Roten Ochsen" (The Red Ox).

It was a nice and smooth start of the day trip when our diverse group from different divisions of the DKFZ was kindly welcomed with chocolate. Then, we got onto a bus which brought us to the top of the "Königsstuhl", the highest hill in the Heidelberg area. Most of us only had seen this place from below when looking past the castle, and might have wondered what will be up there. When approaching the site of the Max Planck Institute of Astronomy, we were astonished by a shining white building, which stood out in contrast to the dark green and brown shades of the surrounding forest. The House of Astronomy was constructed by the Klaus Tschira Foundation to inspire children to study astronomy and natural sciences. Quite peculiar is its shape, modelled after a spiral galaxy (similar our Milky Way) making it one of the most distinctive buildings in Heidelberg.

We were lead into the planetarium by a very kind PhD student from the neighbouring astronomy institute. There, we started a journey through the universe with the closest celestial object, the moon. It was followed by the red planet Mars and the biggest planet in our solar system, Jupiter. We continued our journey by visiting Neptune with its pale blue clouds, and finally arrived to the (ex-) planet Pluto. This dwarf planet was only recently visited by the NASA spacecraft "New Horizons" leading to many scientific discoveries and wonderful photographs.

Our journey continued to places never visited by human spacecraft. We reached the border of our own galaxy and finally the edge of the known universe. We saw structures in the universe formed by dark matter. Dark matter composes up to 75 percent of the universe and can't be directly observed by any known method. We were especially amazed by the similarity of these structures to the neural structure of the brain.

Following the simulation in the planetarium we were invited to view a functioning telescope on the MPI grounds. Our guide explained the features and previous use of the telescope and readily answered our questions.



Jupiter and its volcanic moon Io, taken by the New Horizons spacecraft's flyby in early 2007

Our final stop was for some refreshment at the "Red Ox". Built in 1703, the restaurant is one of the oldest and most traditional pubs in Heidelberg. We enjoyed wonderful German food, drinks and conversation with other newcomers to the DKFZ as well as alumni. A warm welcome from the Alumni Association made for a splendid afternoon in Heidelberg.



Imprint

Alumni

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Grateful to the generous financial support from Prof. Johanna Wanka (middle) and Theresia Bauer (second right): DKFZ Directors Prof. Michael Boutros (second left) and Prof. Josef Puchta, and Prof. Heinz-Peter Schlemmer, Speaker of the Research Program Imaging and Radiooncology (far left).

Groundwork for Radiooncological Innovations

On the occasion of the topping-out ceremony of the Research and Development Center for Imaging, Radiooncology and Preventive Oncology, the DKFZ was honored to welcome two high-ranking representatives from politics: Prof. Johanna Wanka, Federal Minister for Education and Research, and Baden-Württemberg's Minister of Science Theresia Bauer. Both their Ministries have provided generous financial support that eventually made the am-

bitious construction project possible (also see newsletter issue 2/2014). Presumably in spring 2018, the divisions of the Research Program Imaging and Radiooncology will move into the new facility. Radiologists, specialists in nuclear medicine and radiotherapy, physicists, mathematicians, computer scientists, engineers, chemists and biologists will closely collaborate at the six-story-building on an area of 8,000 squaremeters. The physi-

cian scientists and researchers pursue two major goals: Firstly, they want to improve the accuracy and significance of imaging methods in order to combine anatomic information and molecular data. Further, it is intended to enhance the precision and efficacy of radiotherapy. To this end, the investigators will employ various high-end treatment strategies based on radiation with gamma-ray, electrons, protons or heavy ions beams.