

alumni



"We want to stay in contact with YOU!" Manfred Schwab is highly committed to this goal. In fact, the 6th General Alumni Meeting in June 2014 was a good chance to strengthen longstanding relationships and to take new steps in worldwide networking.

New Era in Precision Oncology

Personalized or Precision Cancer Medicine intends to utilize specific patient information for optimizing both individual diagnosis and prognosis, for customizing therapy design as well as for monitoring treatment success. Advances are fueled by technologies such as genomic sequencing, empirical evidence studying specific cancers, integration of diverse sets of data and a systems biology approach incorporating a multidisciplinary team. Read more about how scientists from Germany and abroad rate the future developments.

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New Spirit for International Relations

The DKFZ's efforts to invigorate international ties can be witnessed on various levels: When traveling to research conferences, DKFZ employees bring together local Alumni for informal meetings. PhD students also organized special conferences to meet other graduate students in the field of cancer research in order to discuss their scientific work, to find out about collaboration opportunities and much more. The LinkedIn platform is another valuable networking tool and thus highly appreciated by the Alumni Association.

9, 14 + 16

New Generation of Radiooncologists

The field of radiology with imaging methods, radiation therapy and nuclear medicine issues is facing huge clinical and methodological challenges. To be well-prepared for these future demands the DKFZ promotes its respective research program with the appointment of promising talents as new division heads. Moreover, with the construction of a new 6-floor building for radiology the center provides a state-of-the-art environment that allows for early clinical studies on treatment planning, guidance and monitoring.

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editorial

Dear Alumni, Colleagues, and Friends,

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Front cover, p. 2, middle, p.3, left column, top, p.4, p.5, p. 6, bottom, left, p. 8: Thomas Chen; p.2, left: University of Pittsburgh Cancer Institute, USA; right column, top: Moffit Cancer Center, Florida, USA; right column, bottom: private; p.3, left column, bottom: Institut de Cancérologie Gustave Roussy, Paris, France; middle: Weizman Institute of Science, Rehovot, Israel; right: Medienzentrum, Universitätsklinikum Heidelberg; p. 6, top, left: private; top, right: DKFZ; bottom, middle: DKFZ/T. Schwerdt; bottom, right: DKFZ/Y. de Andres; p. 7, top: Nick Kepper, middle: private; bottom: Merck Serono KG, Darmstadt; p. 9: private; p. 10, left: Max Planck Institute for Biophysical Chemistry, Göttingen; middle, top: DKFZ/B. Engelhardt; middle, bottom: Heidelberg University Medical Center; right: private; p. 11, left, top: L'Oréal/P. Böttcher; left, bottom: DKFZ; middle: private, right: Klinikum der Universität München; p. 12, DFKZ/J. Jung; p.13: Heinle, Wischer und Partner, Freie Architekten; p. 14: DFKZ/IPSCC; p. 15: Clinica Alemana de Santiago, Chile; p. 16: pixabay.com; p. 17. G. van Kaick/J. Helber; p. 18. DKFZ/T. Schwerdt

In 2014, the DKFZ Alumni Association marks its 10-year anniversary. From a small group of 30 members in 2004, the Association has grown substantially to several hundred members. On this occasion one might ask what is the mission of the Association, which are the visions? Two prominent aims guide the activities of the Association. One is to establish and stay in contact with former DKFZ associates, both academic and non-academic; and the second to maintain a harmonious relationship between former and current DKFZ members. In line with these visions, a number of different avenues are being taken. Crucial for these activities was the decision to accept both former and current DKFZ associates – the latter being viewed as “prospective Alumni” – as members of the Association. Early efforts to establish a spirit of networking and mutual career promotion among present DKFZ members are necessary. This notion is a decisive step for successful maintenance of existing relations. The change in the Association’s policy has been met by an overwhelming response, particularly among international DKFZ scientists. It resulted in a substantial increase in membership numbers and, above all, has created a lively networking atmosphere.

During this year, the Alumni Spring reception organized by the community of Chinese DKFZ members as “Chinese New Year” (newsletter issue 1-2014; p. 2-3) and the meeting on “Personalized Cancer Medicine”, organized by the Alumni Association, have been highlights to document the integration of Alumni into current DKFZ life (ps. 2-3, 5). It was a pleasure to welcome 12 former DKFZ scientists from the international community in Heidelberg again. They all are Alumni members, who had received a DAAD stipend to attend the Personalized Cancer Medicine meeting (p. 4). International networking is also offered during yearly DKFZ receptions organized by the Alumni Association at meetings of the American Association for Cancer Research (AACR). This year’s invitation to San Diego was met

by strong attendance of international scientists from both academia and industry (p. 8).

A new networking concept to strengthen international ties has been initiated by Lindsay Murrells through arranging local get-togethers (“Stammtische”) of former DKFZ researchers in major science cities worldwide, this year in San Diego, Zurich, Boston and Copenhagen (p. 9). Most of these researchers had lost contact to the DKFZ after having left the institution. An efficient tool to track former DKFZ members worldwide is offered by the social network LinkedIn in which the Association is now participating (p. 16). Finally, much appreciated are the welcome tours for international scientists who start working at the DKFZ. The excursions to cultural sites of the Heidelberg region (organized by Gerhard van Kaick) and to pharmaceutical industry can be viewed as a valuable networking initiative in a quite relaxed atmosphere.

To meet this complex and challenging task the newly elected Alumni Board seems in perfect condition (p. 7, 16). Even though Alumni members increasingly recognize the need to support the Association by voluntary membership fees, the broad range of activities would not be possible without the generous support by the DKFZ Management Board.

Further, the efficient management skills of Elfriede Mang ensure smooth operations of the Alumni affairs – a competence that is commonly appreciated. And last, but not least, the most important instrument of the Association for transporting Alumni matters to a broad readership is the Alumni Newsletter – its generally accepted charm is due to the design and layout expertise of Dagmar Anders.

I hope you will enjoy reading about the recent activities of our Association and the DKFZ.

With best wishes from Heidelberg



anniversary

The History of International Networking at the DKFZ

Summary of Peter Bannasch's talk during the 6th General Alumni Meeting*

The formal birth of the Alumni Association DKFZ in 2004 was preceded by a developmental period: At the end of 2001, Peter Bannasch wrote a short memorandum which included ideas from various scientific institutions, including Heidelberg Alumni International, the Humboldt Association and also the German Academic Exchange Service. Starting from scratch, there was an urgent need for competent secretarial help. Support was finally identified in the person of Elfriede Mang – a stroke of luck as she had put her heart and soul into the Alumni Association ever since. The collection of addresses and the design of a newsletter in 2002 were the first important steps. Finally, 800 former scientists were addressed by the first issue in 2003. For its development early advice came from the Public Relations Office, namely by Hilke Stamatiadis, her successor Julia Rautenstrauch, and especially Daniel Stolte. The concept of the Alumni Newsletter has been maintained up to the present with some remodeling by Dagmar Anders who has been responsible for editing and desktop publishing since 2005. As the main tool for communication the Newsletter reflects the inner life and outstanding events of the DKFZ and issued topics which were presumed to be especially of interest to Alumni abroad. Thus, the Newsletter became a mirror of the DKFZ and its position in the national and international scientific community. To further develop the Alumni Association, excursions for guest scientists to regional historical and cultural sites are regularly organized. These trips were often combined with visits to well known pharmaceutical companies such as Merck, Bayer Health Care or Roche Diagnostics. In 2005, Gerhard van Kaick, former Head of the Division of Oncological Di-

agnostics and Therapy, accepted the position as a Coordinator of the Heidelberg Alumni Club and proved to be a most active, well-informed and inventive colleague. He knew how to combine the proverbial German Gemütlichkeit with an appropriate intellectual standard. As an additional task, the Alumni Association took over the organization of the annual receptions for guest scientists and their hosts. Heike Langlotz, a staff member of the Division of Human Resources, committed herself deeply to the organization of these receptions. Exemplary was the reception in January this year, when Tianhui Chen and Manfred Schwab organized a Chinese Spring Festival event.

In 2004, the personnel basis of the Alumni Association was extended: Otmar D. Wiestler, Chairman of the DKFZ Management Board, became a member *ex officio* of the Board. Konrad Buschbeck, formerly a representative of the Federal Ministry of Science and Technology in the Board of Trustees, took over the position of a treasurer. With his great experience and valuable advice in science policy, Konrad Buschbeck went far beyond his task as a treasurer. An early activity of the Association is the establishment of two working groups which elaborated a memorandum for the foundation of a Heidelberg School of Basic and Translational Oncology in 2007. The translational part of such a school has been realized and now provides extensive education and training for physicians and physician scientists. In 2005, receptions for Alumni, current DKFZ scientists and other cancer researchers were established during the annual AACR meetings. Meanwhile, this event has become a tradition further developed by Dietrich Keppler and Manfred Schwab.

Another approach to improve the international network were bilateral scientific meetings, and the foundation of Alumni Clubs in a few countries. In 2005 for example, Sino-German meetings in Beijing, Wuhan and Xi'an finally led to the establishment of a Chinese Branch of Alumni DKFZ.

Further, the Association put much effort in strengthening the Japanese-German collaboration in cancer research. A regional Alumni get-together in Tokyo resulted in the foundation of a Japanese Alumni Club. Mediated by our Polish Member Mieczyslaw Chorazy, three Polish-German Cancer Workshops were organized by the Alumni Association, two in Heidelberg in 2008 and 2010, and the third one 2009 in Gliwice.

At the 4th General Alumni Meeting in 2010, the Board was reshaped: Dietrich Keppler, former Head of the Division of Tumor Biochemistry, became Peter Bannasch's successor as Chairman of the Board. He refurbished the receptions at the annual AACR meetings, issued the first membership directory, organized an excellent scientific program for the Alumni Meeting in 2012, and created an award for young scientists.

After the retirement of Dietrich Keppler and Wolfhard Semmler in 2012, Manfred Schwab, former Head of the Division of Tumor Genetics, and Lindsay Murrells, Manager of the DKFZ Graduate School, became new Board Members.

The history of the Alumni Association can be regarded as a story of success. Starting with 30 founding members in 2004, the Association is not far from 600 members this year. This development reflects the commitment to the ambitious aim of the Alumni Association: to attract outstanding young scientists from the whole world to the DKFZ.

- 2001: Peter Bannasch submits a short memorandum on the establishment of an Alumni Association
- 2002: Collection of addresses; conceptual design of a newsletter
- 2003: First issue of the Alumni Newsletter
- 2004: Formal birth of the Alumni Association DKFZ with 30 founding members. Otmar D. Wiestler becomes member *ex officio* of the Alumni Board; Konrad Buschbeck takes over the position of the treasurer
- 2005: Establishment of the Alumni Heidelberg coordinated by Gerhard van Kaick
- 2005: First Alumni Reception during the annual meeting of the AACR
- 2007: Foundation of the AACR Alumni DKFZ
- 2007: A Japanese Alumni branch of the Alumni Association
- 2008: First Polish-German Cancer Workshop organized by the Alumni Association
- 2010: Dietrich Keppler becomes Peter Bannasch's successor as Chairman of the Alumni Association
- 2010: A Membership Directory is set up for the first time
- 2012: Manfred Schwab is elected new Chairman of the Alumni Board. Further support is recruited in person of Lindsay Murrells
- 2014: The Alumni Association celebrates its 10th Anniversary on the occasion of the 6th General Alumni Meeting
- 2014: New board members are elected: Barbara Janzsens, Wolfgang Schlegel and Axel Wiest

meeting

Approaches Towards the New Era of Precision Oncology

by Laura Nelson

Personalized Cancer Medicine was the central theme of the 6th DKFZ General Alumni Meeting featuring prominent scientists from academia and industry from Germany and abroad. Personalized or Precision Cancer Medicine intends to utilize specific patient information for optimizing both individual diagnosis and prognosis, for customizing therapy design as well as for monitoring treatment success. Advances are fueled by technology such as genomic sequencing, empirical evidence studying specific cancers, integration of diverse sets of data and a systems biology approach incorporating a multidisciplinary team.

We are moving away from an era of “blockbuster drugs” that generate 1 billion US dollar in sales per year, stated Axel Wiest of Merck Serono in Darmstadt. First generation drugs that kill rapidly dividing cancer cells and normal cells with the specificity of a sledge hammer, will be complemented by targeted drugs that inhibit a specific protein or mutation with micro-surgical precision.



Nancy Davidson



John Mendelsohn

John Mendelsohn, former President of the MD Anderson Cancer Center in Houston, USA, presented four crucial key breakthroughs in the advancement of personalized medicine:

- (1) proof that cancer is caused by specific genetic aberrations,
- (2) advances in technologies and informatics help to rapidly determine the sequence of cancer genomes,
- (3) development of a new class of therapies targeting the products of aberrant genes, and
- (4) demonstration that biomarker-based selection of patients for clinical trials can lead to high response rates with targeted therapies.

Nancy Davidson from the University of Pittsburgh Cancer Institute, USA, and Berta Strulovici, from the Weizmann Institute of Science, Rehovot, Israel, complemented these remarks illustrating other important advances in early detection or prevention, in the delay of disease progression, and in drug repurposing. Several speakers emphasized that the focus for both academia and industry is on the individual tumor genome and proteome, which illustrates a higher order of functional complexity of the genome. Both approaches make use of sophisticated technology in next generation sequencing and mass spectrometry. Investigators look for markers of therapy response or resistance and for new potentially druggable targets. Personalized medicine obviously has to take advantage of all the latest technol-

ogy and available information from patients, their cancer type and all scientific literature to find the treatment(s) most likely to be successful. In anticipation of this need, the Moffitt Cancer Center in Tampa, Florida, has initiated a new approach, as detailed by its representative Thomas Sellers: To date, the Total Cancer Care protocol, includes more than 100,000 patients who have consented to provide tissue, data, and permission for lifetime follow-up and recontact for subsequent studies. The protocol affords



Thomas Sellers

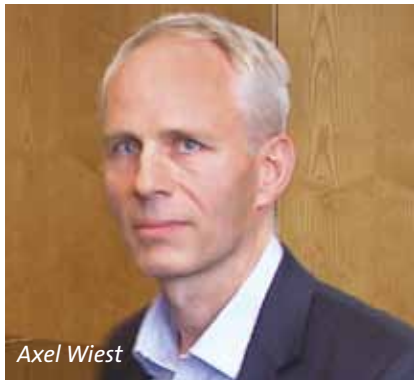
the opportunity to address a myriad of critical questions in precision medicine. Many drugs target a specific mutation in a gene, such as vemurafinib for melanoma with the B-Raf V600E mutation, rather than copy number or overexpression. Mutation status of downstream signaling proteins can have a profound impact on the effectiveness of others, such as the requirement for wild-type KRAS in metastatic colorectal cancer for cetuximab, as Friedrich Rippmann of



Friedrich Rippmann

Merck Serono in Darmstadt emphasized. Current era targeted therapies include drugs that inhibit kinase activity such as monoclonal antibodies (trastuzumab for Her-2 and cetuximab for EGFR) or orally available small molecule inhibitors (imatinib for BCR-ABL or c-Kit, lapatinib for Her-2).

Axel Wiest also looked ahead on the horizon of precision oncology. In his talk he presented how antibody derivatives, mimetics and antibody-drug conjugates are being developed.



Axel Wiest

Alexander Eggermont, a melanoma clinician and research director of the Institut de Cancérologie Gustave Roussy in Paris, described tumor evolution as a moving target whose treatment would benefit from innovative immunomodulation such as cell-based immunotherapy, or the anti-CTLA-4 antibody ipilimumab, which perpetuates T cell activation by “inhibiting the inhibitor”. There is consent that collaboration between academia and industry and



Alexander Eggermont

different cancer centers is crucial, with academia providing many normal and tumor samples for analysis and industry providing the infrastructure

for high-throughput sequencing, proteomics and screening of compounds. All partners develop bioinformatics platforms to support analysis of massive amounts of data and to correlate biomarkers with outcomes. Berta Strulovici presented the powerful concept of the Israel National Center for Personalized Medicine, which makes use of state-of-the-art capabilities in genomics and proteomics profiling and data integration in order to face the challenges of individualized therapy approaches. She described several examples of basic and clinical research projects that benefit from cutting edge technologies. Many speakers emphasized that numerous challenges include prioritizing individual genomic mutations and determination of the most important “drivers” of carcinogenesis or metastasis. Moreover, genomic heterogeneity within a single tumor has to be tackled, while the organization and integration of sharable data into accessible knowledge networks, the reduction of errors



Berta Strulovici

and the maintenance of secured and reliable health information for patients require intensive efforts.

It will be crucial that all individuals around the globe benefit from the advances in the future. There are barriers to overcome such as toxicity in using combinations of targeted therapies. Precision oncology will have to address multiple genomic aberrations in most patients’ cancers and to counteract mechanisms of resistance. Practicing oncologists need tools to assist them and their patients in making treatment decisions. Attempts to meet these challenges include the Oncology Research Information Exchange Net-

work (ORIEN), as described by Thomas Sellers. Others will add to this like the Worldwide Innovative Networking Consortium (WIN), the DKFZ NCT Precision Oncology Program and the DataThereHouse as stated by Christof von Kalle. The Director of the National Center for Tumor Diseases (NCT) Heidelberg emphasized the importance to direct all efforts in precision oncology towards a validated workflow for trials. The goal is to infer rational recommendations for mechanism-based therapeutic in-



Christof von Kalle

terventions in advanced malignancies and improve patient care by integrating systematic molecular data.

Cancer is now being described as a disease that may not simply be conquered or cured but may be controlled or managed as a chronic disease, similar to HIV infection. Nancy Davidson reported that breast cancer, for example, is actually a myriad of diseases that can be defined molecularly. Testing a few key genes is being expanded to multigene panels and will have therapeutic implications. Yet, there is still a need to identify additional and better genomic biomarkers in tumors and the circulating blood. Nancy Davidson, John Mendelsohn and Thomas Sellers agreed upon the main goal, which is to maximize outcomes and minimize cost and toxicity by providing the right treatment(s) in the right place at the right time to the right patient, ideally for the first time. Cancer may be a tough nut to crack, but with dedicated efforts and collaborations, we can be an even tougher nutcracker.

For more details, please refer to the the Book of Abstracts on www.dkfz.de/en/alumni/.

networking

A Follow-up of Successful Career Boosts by Barbara Janssens

Thanks to a DAAD travel stipend eleven DKFZ Alumni had the chance to attend the DKFZ Alumni Meeting in June. For them it was a great opportunity to come back to Germany and visit friends and colleagues at the DKFZ. At the same time it was very interesting to learn where these alumni are based now. Most of them are also members of the DKFZ Career Network Group on LinkedIn and their contact details are of course available in the DKFZ Alumni Directory in the Members Area (www.dkfz.de/alumni).



The group of DAAD stipends

- **Anne Fassl** did her PhD in Wilfried Roth's lab (see Fassl et al., *Oncogene* 2012) and is now a postdoc at the Dana-Farber Cancer Institute in Boston, MA (USA). There, she is also a member of the Postdoctoral and Graduate Student Association (PGA) Committee. About participation in the Alumni Meeting in Heidelberg she commented with enthusiasm: "It was a great pleasure to come back to the DKFZ and Heidelberg, hearing about fascinating science while meeting friends and getting in touch with so far unknown members of the DKFZ family. The best was the feeling of still being part of the DKFZ although now working far away!"
- **Serpil Tanriverdi** now has a faculty teaching position at the Dokul Eylul University in Izmir, Turkey. A medical physicist by training, she did her PhD in Oncology in 2009. She spent some time at the DKFZ as a postdoctoral visiting scientist at the GMP Unit Cellular Therapy. "This was a valuable experience for me to continue my career towards doing research", she said.
- **Maria Agarwal** (formerly Jesiak) is currently working as a postdoc at the John Hopkins University in Baltimore, Maryland (USA). She conducted her PhD thesis at the DKFZ Division of Translational Immunology until June 2013. To her "it was a great experience to be back at the DKFZ and in beautiful Heidelberg." Thanks to the Alumni Meeting, she added, it had been possible to interact with previous members of the institute, and get to know about their current research and interests. "It was wonderful to meet my former lab members and go again for a coffee break together!"
- **Maya Zaharieva** is meanwhile Assistant Professor in Microbiology and Pharmacology at the Stephan Angeloff Institute of Microbiology, BAS, Sofia, Bulgaria. She did her PhD in the Research Group Toxicology and Chemotherapy at the DKFZ with a DAAD fellowship in 2006 and stayed on as a postdoc with an Alexander von Humboldt Fellowship until 2008.
- **Meeta Kulkarni** is now Assistant Manager at Blueocean Market Intelligence in Mumbai, India. She joined this healthcare market research company as a consultant after finishing her PhD in the Helmholtz University Junior Research Group Posttranscriptional Control of Gene Expression at the DKFZ in 2012.
- **Ramesh Ummanni** has joined the Center for Chemical Biology at the CSIR-IICT in Hyderabad, India. He did his PhD at the University of Greifswald in 2008 and worked as a postdoc in the DKFZ Division Molecular Genome Analysis from 2010 to 2011.
- **Stella Veloza** holds a position as an associate professor at the national University of Colombia "Universidad Nacional de Colombia" in Bogota, Colombia. She finished her PhD thesis at the DKFZ Division Medical Physics in 2013.
- **Suhail Ahmed Kabeer Rasheed** presently works as a Senior Research Fellow at the Duke-NUS Graduate Medical School in Singapore. He did his PhD in the Clinical Cooperation Unit Molecular Oncology of Solid Tumors at the DKFZ in 2010.
- **Vaishali Kapoor** is postdoctoral research associate at the Washington University School of Medicine since 2013. She graduated at the All India School of Medicine and stayed at the DKFZ Research Group Toxicology and Chemotherapy in 2010.
- **Yun-chien Cheng** is a medical engineer experienced in biochip fabrication and plasma medicine. He is now Assistant Professor at the National Chiao Tung University in HsinChu, Taiwan. He did his PhD at the DKFZ Junior Research Group Chip Based Peptide Libraries in 2012.
- **Amada Torres** is Scientific Consultant at IIO-UABC in Mexico. She received a PhD degree in 2011 for her thesis conducted at the DKFZ Division Functional Genome Analysis.

mentoring

Role Models for Career Development by Anne Fassl

The first session of the 6th General Alumni Meeting awaited its audience with three examples of different career paths. They vividly illustrated the manifold facets of working in science.



*Provides advice on career matters:
Barbara Janssens*

When DKFZ career manager Barbara Janssens opened the first session she looked into the excited faces of many young scientists. Clearly, in the era of increasingly restricted funding, the need for guidance on the path in professional life is as intense as ever. Three former members of the DKFZ gave insights into their career decisions and the nature of their daily work. Simone Fulda, who heads a research group on Experimental Cancer Research in Pediatrics at the University Hospital Frankfurt, was the first lecturer. Her group focuses on apoptosis resistance in cancer, an interest she developed during her early days as a medical student. She deepened her knowledge through postdoctoral research in the Clinical Cooperation Unit Pediatric Oncology at the DKFZ. Later at the Institute Gustave Roussy, France, she studied as a Heisenberg Fellow before ultimately becoming a full professor. Of great excitement is the fact that the results of basic research she started with about 20 years ago are now on the verge of being applied in the clinic. Simone Fulda is living proof that a continual interest and hard work can combine to create the basis for a successful academic career. She advised everybody with a passion for science and a desire to stay in academia to pursue the goal of becoming a leader in science.

Friedrich Rippmann, who works at Merck Serono, chose a different career path. He studied pharmacy and joined the DKFZ as a scientist in 1987. When he planned his next career steps three years later, Harald zur Hausen offered him support to go abroad. He took the opportunity and went to the National Institute for Medical Research, UK. After his return to Germany he applied to both the EMBL and Merck Serono. Choosing the latter, he made his way from a scientist in drug design to the director of Global Computational Chemistry. He advised anyone interested in joining industry to conduct postdoctoral research at a renowned institute, and to subspecialize in a particular research area. He also recommended starting off in a biotech company, as “Big Pharma” is highly demanding of industry experience. Axel Wiest (MD, MPH), the third speaker, also works at Merck Serono. He studied medicine and did his PhD research at the DKFZ. In addition to his qualification in oncology, he obtained a Masters in Public Health at John Hopkins University, USA. After working in several companies (at A.T. Kearney as management consultant, at Fresenius Biotech as Chief Operating Officer, and as Corporate Vice President at Boehringer Ingelheim), he recently joined the R&D division of Merck Serono. He strongly advised young scientists to follow their interests and take advantage of all the possibilities at hand. He discussed the value of interaction, early contact with companies, and short internships as ways of getting a taste for an industry career and building a network. The three outlines of different career paths clearly demonstrated that there is no right or wrong on the way to success. The examples showed the importance of being open to advice and input from people who have already gone down the path before. Yet, in the end it is still an individual decision!



Simone Fulda stated her point of view on the prerequisites of a successful academic career.



Friedrich Rippmann (above) and Axel Wiest (below) are two remarkable examples of researchers who chose a career path in industry.



reception

Award Ceremonies and Exceptional Achievements by Elfriede Mang

After many outstanding scientific lectures during the 6th General Alumni Meeting, the Reception on June 27 offered a mix of information and interactions, perfectly framed by music of the Blue Note Jazz Company (BNJC).

A special highlight of the Alumni Reception was the presentation of the DKFZ Alumni Award for International Scientists 2014. The distinction of 5,000 euro was divided in equal share between two scientists.

One award was handed over to Hai-Kun Liu, Head of the Helmholtz Young Investigator Research Group Normal and Neoplastic CNS Stem Cells in recognition of his excellent work on neural stem cells and in unravelling epigenetic pathways of brain tumorigenesis.

The other awardee was Paul Northcott, unfortunately in Canada for lecturing at that time. Paul Northcott's excellent results achieved at the Division of Pediatric Neurooncology were acknowledged as they provide new insights into the genomic complexity underlying medulloblastoma.

Further, three prizes of 500 euro each were handed over to Vaishali Kapoor (Washington), Rasheed Ummanni (Tarnaka) and Bhupesh Prusty (Würzburg) for their excellent posters presented during the meeting.

In recognition of their important contributions to the Alumni Association, three previous board members were elected Honorary Members: Konrad Buschbeck was honored for his merits as long-lasting treasurer, while Dietrich Keppler received a certificate for his accomplishments as former chairman of the board. Last but not least, Gerhard van Kaick's commitment in organizing guest scientist activities and lecture seminars of the Alumni Club Heidelberg was highly recognized on the occasion of the Reception.

Manfred Schwab, chairman of the Alumni Association DKFZ, welcomed the new members of the board, namely Barbara Janssens, Wolfgang Schlegel and Axel Wiest (treasurer) (see next page). The ceremonies were followed by a talk by Otmar D. Wiestler, Chairman of the DKFZ Management Board, who gave an



The DKFZ Alumni Award for International Scientists 2014 recognized the outstanding research of Hai-Kun Liu (top left) and Paul Northcott (top, middle). Additionally, three former board members were elected Honorary Members for their commitment and support of the Alumni Association (from left): Konrad Buschbeck, Dietrich Keppler, and Gerhard van Kaick.

overview on recent developments at the center. He started with examples of outstanding achievements throughout the seven Research Programs. News on the construction plans of the National Center for Tumor Diseases (NCT) Heidelberg and its future aims and strategies as well as recent developments at the "Heidelberg Center for Personalised Oncology (DKFZ-HIPO)" and the "German Cancer Consortium (DKTK)" complemented his presentation. The next talk was given by Silke Rodenberg, head of Heidelberg Alumni International (HAI) at Heidelberg University. She described the issues of her alumni organization and informed about cooperation opportunities between this association and Alumni DKFZ.

Peter Bannasch's talk on 10 Years Alumni DKFZ Heidelberg concluded the official part of the reception. The founding chairman highlighted the essential steps in the development of the Association as summarized in the article on p. 1 (The whole speech is available on www.dkfz.de/de/alumni/essays.html). Finally, a buffet dinner offered the perfect setting to renew old relations and to establish new contacts.

general assembly

Traditional Events and a Wind of Change by Manfred Schwab

A large number of Alumni participated in this year's General Assembly of the Alumni Association to get an update of the activities in international and local networking and to learn more about the new cast of the Alumni Board.

Chairman Manfred Schwab summarized the recent activities to strengthen worldwide relationships by initiating "Stammtische" at international science centers and reported on the Alumni Receptions along with the annual AACR meetings which have meanwhile become a tradition. Additionally, there were well-received events at the local level comprising the regular New Year reception, excursions to regional places of interest, and lectures of the Alumni Club Heidelberg featuring recent developments in cancer research, e.g. on lung and colon cancer, personalized medicine and radiology.

Of special interest was the reorganization of the Alumni Board: As both Konrad Buschbeck (treasurer) and Gerhard van Kaick decided to step down, suitable candidates as successors had to be identified. For the position of the treasurer, Axel Wiest was nominated. The current Chief Operating Officer R&D at Merck Serono established his first ties with the DKFZ during his PhD thesis supervised by Gerhard van Kaick in the Division Oncological Diagnostics and Therapy.

Two additional candidates with close links to the DKFZ were suggested as future Board Members: Barbara Janssens and Wolfgang Schlegel. Barbara Janssens has been active for the DKFZ since 2011 as a career manager. She has established a career guidance by giving one-on-one career advice to PhD students and postdocs, organizes workshops and career days and facilitates networking. Barbara Janssens studied Biotechnology in Ghent (Belgium) and gained a great deal of international experience during her research at the Uppsala Biomedical Center (BMC) in Sweden, the European Molecular Biology Laboratory (EMBL) in Heidelberg and the Netherlands Cancer Institute (NKI) in Amsterdam. After postdoctoral research in molecular and cell biology

at the Institut Curie in Paris, France, she worked for the publishing house Wiley-Blackwell from 2005 to 2010 as Managing Editor and Co-Editor-in-Chief of the Biotechnology Journal and related periodicals in Lipid Sciences and Engineering in Life Sciences.

Wolfgang Schlegel who studied physics, mathematics, chemistry and microbiology at the Universities of Berlin and Heidelberg, was Head of the Division Medical Physics in Radiation Oncology at the DKFZ until 2013. Presently, he holds a position as Professor Emeritus. Additionally, he was Speaker of the DKFZ Research Program Imaging and Radiooncology from 2006 until 2012. Schlegel has many obligations within the scientific community, e.g. as President of the European Federation of Organizations in Medical Physics from 2006 to 2008. He has received numerous honors and awards, prominently the German Cancer Award in 2003. Last, but not least, Elfriede Mang agreed to continue her work as secretary for another four years. Her commitment and meticulous organizational skills are vital to smooth the Association's operations.

All candidates were unanimously elected and accepted the task. Prof. Gerhard van Kaick and Dr. Konrad Buschbeck will stay closely linked to the Alumni Association. Manfred Schwab expressed his appreciation and gratefully welcomed their continued support.



Barbara Janssens provides advice on the prerequisites of a successful academic career.



Experienced support of the Alumni Board: Wolfgang Schlegel (above) and the new treasurer Axel Wiest (below).



reception at aacr

An Update of German and Japanese Cancer Research by Min Li

On a reception of the Alumni Association and the DKFZ Management Board during the AACR Annual Meeting in San Diego in April 2014, Manfred Schwab, Chairman of the Board of Alumni, emphasized the goals of the Association to support long-lasting personal and scientific relationships between present and former members and to create a community of cancer researchers from all over the world. The opening remarks were followed by presentations from four distinguished speakers from the DKFZ, the Japan National Cancer Center and the Kanazawa Cancer Center.



Christof von Kalle, Otmar D. Wiestler, Toshikazu Ushijima, and Masanobu Oshima followed Manfred Schwab's (middle) invitation to present recent developments in cancer research.

Otmar D. Wiestler, Chairman of the DKFZ Management Board, presented the achievements of “50 years Research for a Life without Cancer”. From its beginning in 1964 as a national research institute, the DKFZ has focused on researching the basic biological mechanisms of cancer and translating these results to enhance prevention, diagnosis, and treatment of the disease. Translation was significantly boosted with the establishment of the National Center of Tumor Disease (NCT) Heidelberg ten years ago, which currently sees over 10,000 patients per year. Additionally, seven other university hospitals have joined the German Cancer Consortium. This makes DKFZ and NCT international leaders in the revolutions taking place for personalized, genome-based cancer medicine.

Over the years, DKFZ has helped to ban cancer-causing substances from our food, fought against smoking, and raised new methods for radiotherapy. It offers first-class facilities to attract the best talents, and most notably, proudly witnessed Harald zur Hausen's Nobel Prize for discovering the correlation between HPV and cervical cancer. DKFZ

looks forward to what it can accomplish in the years to come. Christof von Kalle, Director of the National Center for Tumor Diseases (NCT) Heidelberg, presented “Personalized Cancer Treatment at the DKFZ” and recent developments of the Heidelberg Center for Personalized Oncology (DKFZ-HIPO) in genomics, proteomic, and bioinformatics. Further, he introduced the NCT Precision Oncology Program that provides a comprehensive workflow for clinical activities. Projects comprise research on metastasis formation in colon cancer, therapeutic targets in lymphoma. Of further interest are lesions in sarcoma, and the genetic basis of retroviral oncogenesis in gene therapy.

Toshikazu Ushijima, Senior Deputy Director of the National Cancer Center Research Institute (NCCRI) in Tokyo, provided an outstanding presentation covering the “National Cancer Center Japan – Born in 1962, reformed in 2010, and...?” In 2010, the Center redefined its core principals by complementing its clinical service, research, and education by a collaboration of the patients and the scientific community.

Dr. Masanobu Oshima, Director of the Kanazawa Cancer Research Institute, introduced to cancer stem cell research at his center. The Japanese institution has massively grown over the last decade. In Kanazawa, the molecular mechanisms for maintenance of leukemia stem cells have been discovered. In 2010, the center was divided into four programs: “Cancer and Stem Cell Research”, “Cancer Microenvironment Research”, “Cancer Molecular Target Exploration”, and “Cancer Therapeutics Development”. Also in 2010, the center set up a new focus on metastasis and drug resistance. This allows collaboration amongst a variety of fields including natural science, engineering, and clinical medicine.

In an inspiring closing remark Manfred Schwab pointed out the need for team efforts amongst the scientific community, the entire industry of healthcare, the patients and their families to achieve the goal of a life without cancer. The Alumni Association embodies this collaborative spirit and looks forward to the discoveries ahead.



San Diego panoramic view at the end of a successful day

connections

A Promising Concept to Invigorate International Ties

Zurich by Celina Cziepluch

The idea is quite recent and very simple: When travelling to high profile destinations for research, meetings or conferences, current DKFZ employees bring together local Alumni for an informal get-together. This has happened successfully before in Boston as featured in the previous DKFZ-Alumni-newsletter. Meanwhile, it spawns an increasing number of imitators.

When Lindsay Murrells and Barbara Janssens proposed to initiate an informal get-together in Zurich, I didn't think twice. During my three-month internship at the ETH-Zurich, I identified a date and a location and sent out

invitations via e-mail and through the Alumni network in LinkedIn. In the end and in spite of summer vacation time, six former DKFZ scientists from six different research programs – three from Zurich and three from Basel – met for what turned out to be a very lively and enjoyable evening. Even though participants were pretty diverse with respect to age and time spent at the DKFZ, there were many topics of common interest. All pointed out the high value of a strong DKFZ Alumni network for research at all levels both in- and outside academia. In addition, one participant was keen to initiate a second Swiss get-together, next time in the DKFZ Alumni hot spot Basel.



Six former DKFZ researchers from six different Research Programs met for the first DKFZ Alumni get-together in Zurich on Monday July 28th (from left): Wolfgang Wiedemair, Emanuela Felley-Bosco, Katrin Arnold, Ulrike Lemke, Knut Sturmhöfel und Celina Cziepluch



Informal get-together in Copenhagen: (from left): Barbara Janssens, Jutta Bulkescher, Ansam Sinjab and Katharina Nöske.

Copenhagen by Barbara Janssens

At the occasion of the 2014 Euroscience Open Forum (ESOF) in Copenhagen, DKFZ Alumni members took the opportunity to initiate another "Stammtisch" there. They were pleased to learn that former DKFZ researchers are now working in Denmark at the University of Copenhagen (3), the Technical University of Denmark, Lund University (not far away), the Danish Stem Cell Center (3), the Center for Protein Research, Novo Nordisk A/S (4) and Takeda Pharmaceuticals. At the ESOF meeting Barbara Janssens, Katharina Nöske and Ansam Sinjab actively participated in

sessions on Career Development and Responsible Research and Innovation, about which they will report in Science Careers, AGCAS and BioEssays. At the get-together a lively discussion arose with Jutta Bulkescher, Novo Nordisk Foundation Center for Protein Research and the Danish Stem Cell Center since 2013, who previously worked at the EMBL Heidelberg and from 2000 to 2006 in the lab of Werner Franke at the DKFZ. She expressed her willingness to organize future get-togethers in Copenhagen. Interested Alumni can contact her on LinkedIn or via the DKFZ Alumni members' area.

San Diego by Esther Breunig

After the fruitful get-together that Lindsay Murrells and Maja Reuß had organised in Boston to re-connect with DKFZ alumni, it was obvious that the participation of current DKFZ Members in a career fair of the AACR Annual Meeting 2014 in San Diego was a great opportunity to arrange a similar event for alumni now working in California. A quick look on LinkedIn revealed that the San Francisco Bay area was a hot-spot for Alumni and therefore seemed to be the perfect place for the next Alumni get-together. The career fair in San Diego has been a most welcome opportunity for Lindsay

and me to advertise the DKFZ as an attractive employer at all scientific career levels. We were very happy to get into contact with numerous young talents from all over the world, who were interested in our Master, PhD and Postdoc programs or in career opportunities for those who want to establish junior research groups. After several fruitful and interesting discussions we traveled to San Francisco where we met with ten DKFZ Alumni in the evening. Immediately a dynamic exchange about their former positions at the research center and their current careers in the Bay Area began. With the participants having common scientific interests, common friends and colleagues, contact



information was quickly exchanged. It took only few days after we left San Francisco for the first e-mails to be exchanged and a second meeting to be scheduled – unfortunately the journey was too long for us to attend...

people

Awards & Special Honors



The Nobel Prize in Chemistry 2014, the most prestigious distinction in science, has been dedicated to **Prof. Stefan Hell**, who is Head of the DKFZ Division of Optical Nanoscopy and also Director of the Max-Planck Institute of Biophysical Chemistry in Göttingen. The physicist is honored for his pioneering work in the field of ultra high resolution fluorescence microscopy.

The DKFZ held a grand celebration in honor of “their” Nobel Prize winner. On this occasion, the two Directors Profs. Otmar D. Wiestler and Josef Puchta conferred a valuable present to Stefan Hell: A gift certificate for a portrait to be painted by an artist of his choice and the promise of five years of funding for a junior research group that will be named after the Nobel Prize winner. Read more about the celebration of the physicist and his outstanding achievements on the back cover.

The great importance of Hell’s groundbreaking research has already been reflected in many other high ranked prizes like the “Deutscher Zukunftspreis” 2006 conferred by Germany’s Federal President or the Carus Medal of the National Academy of Sciences Leopoldina. Only recently, the researcher was awarded another very prestigious distinction: the Kavli Prize for Nanosciences. The jury acknowledged Hell’s “transformative contributions that led to nanoscale resolution in fluorescence microscopy and opened up new applications in biology”. The award is granted biennially by the partnership of the Norwegian Academy of Science and Letters, the Kavli Foundation, and the Norwegian Ministry of Education and Research. Hell shares the award of 1 million US dollars with Thomas W. Ebbesen, Strasburg, and Sir John B. Pendry, London.



The German Association of Digestive and Metabolic Diseases honored **Dr. Sven Diederichs** for his outstanding scientific work with the Young Investigator’s Award on Liver Cancer worth 10,000 euro. The Head of the Helmholtz University Junior Research Group elucidated the interplay and mutual regulation of non-coding RNA and a ribosome-binding protein, accounting for the survival of liver cancer cells.



Dr. Sebastian Dieter received one of the five Ruprecht-Karls Prizes 2014 for his thesis on stem cells of colon carcinoma. Together with his colleagues of the Division of Translational Oncology he discovered that these cells differ in growth behavior and the ability to spread metastases. The results may lead to improved treatment approaches against cancer stem cells. The award of the Foundation Heidelberg University is endowed with 3,000 euro each.

The St. Jude Medical Award of 5,000 euro was granted to **Bastian Graser** by the German Society for Thoracic, Cardiac and Vascular Surgery. The researcher of the Division Medical and Biological Informatics postulated a computer-controlled process that improves planning of particular heart valve operations. This may open up new possibilities for customized treatments.



Dr. Johanna K. Kaufmann, a former PhD student of the Junior Research Group Oncolytic Adenoviruses, has been awarded the Wilma Moser Prize of the Heidelberg University. The prize worth 5,000 euro was conferred in recognition of the doctoral summa cum laude graded thesis submitted by the youngest candidate to the science-mathematics or medical faculties. At the DKFZ, Johanna Kaufmann investigated particularly viruses that can directly kill tumor cells. In cooperation with the National Center for Tumor Diseases (NCT) Heidelberg and the Heidelberg University Dermatology Center, she modified a measles virus such that this could then infect specific skin cancer cells and kill them, while healthy skin cells remain unaffected.

Marineta Kovacheva, former graduate student of the Research Group Toxicology and Chemotherapy, was honored with the 1st Science Award of the German Association for Senology. The prize of 5,000 euro acknowledges her thesis on the role of bone sialo protein in the development of bone metastases from breast cancer.

Tristan Anselm Kuder, postdoc in the Division Medical Physics in Radiology, was honored for his outstanding thesis on magnetic resonance imaging of diffusion pores. The Gips Schüle Foundation awarded him the third prize for the development of a technique that allows to study the microstructure of biological tissues like that of tumors. The award is endowed with 2,500 Euro.

people



Mila Leuthold from the CHS Junior Research Group Noroviruses received one of three awards recognizing women in science. The German UNESCO commission and L'Oréal Germany conferred the prize worth 20,000 euro in honor of the researcher's work on the interplay of noroviruses with the host organism. The results may help to develop substances that could stop or at least weaken an otherwise potentially fatal infection. Half the prize money goes to the winner herself to be used for extra childcare, household help, coaching, and further training. The remaining half will be distributed to support DKFZ projects to improve the compatibility of career and family.



Dr. Ina Oehme received the Hector Research Award in Oncology 2014 endowed with 20,000 euro. The H.W. & J. Hector foundation recognized her translational research approach on childhood neuroblastoma. The researcher of the Clinical Cooperation Unit Pediatric Oncology focuses especially on the varying disease progression: In some cases remissions occur, while other tumors grow quickly, develop therapy resistance and inevitably lead to death. Oehme identified essential components and showed that inhibitors of a crucial enzyme successfully restore the efficacy of chemothera-

peutics. Together with her colleagues she is currently developing a targeted drug against childhood neuroblastoma. Ina Oehme's findings have also been acknowledged by the Kind-Philipp-Stiftung. The foundation's distinction of 10,000 euro is dedicated to the best research project on childhood cancers in German-speaking countries. Oehme shares this year's research award with **David Jones**, Clinical Cooperation Unit Neurooncology. Jones unraveled genetic alterations common in pilocytic astrocytoma. Drugs inhibiting the malfunctions of the respective genes may serve as new therapeutic intervention measure.



Dr. Alexandros Vegiopoulos, Head of the Junior Group Metabolism and Stem Cell Plasticity, is one of four scientists of an international research team that shares a research grant of 1.2 million US dollar. With the Young Investigator Grant the international Human Frontiers Science Program supports investigations on the regulation of metabolic actions for a period of three years. The researchers study how tissues of different kind respond to metabolic signals. The aim is to understand how an organism adapts to these signals and why diseases like diabetes and cancer are triggered.

The Sibylle Assmus Foundation awarded **Prof. Hendrik Witt**, Head of the Clinical Cooperation Unit Pediatric Neurooncology, and **Dr. Markus Weiler**, Clinical Cooperation Unit Neurooncology, with a research grant of 9,000 euro. The investigators study genetic and epigenetic causes of recurrent brain tumors as well as molecular mechanisms of invasive glioblastoma growth mediated by radiotherapeutic and antiangiogenic interventions.

Prof. Otmar D. Wiestler has been awarded the honorary doctorate of the Medical Faculty of the Ludwig-Maximilians-Universität (LMU) Munich. The Scientific Director and Chairman of the DKFZ Management Board is internationally recognized for his achievements in the field of molecular and cellular neurology and for his visionary activities as science manager. The distinction also acknowledges Otmar Wiestler's merits in the development of translational cancer research in Munich, one of the partner sites of the German Consortium for Translational Cancer Research (DKTK).



From left: Prof. Maximilian Reiser, Dean of the Medical Faculty of the LMU, Prof. Bernd Huber, President of the LMU; Prof. Otmar D. Wiestler, Prof. Wolfgang Hiddemann, Director of the Department Internal Medicine III, University of Munich.

DKFZ – The movie

„50 Years of Research For A Life Without Cancer“ – the new claim of the DKFZ is also the title of the movie that gives insights into the goals and strategies of the largest biomedical research institute in Germany. The DKFZ image video features prominent examples of research projects and activities with impact on public life, politics and industry. Division heads, graduate students and many other representatives of the DKFZ family depict the manifold facets of basic research into cancer development, its prevention, diagnosis and therapy that have contributed to the excellent reputation of the Cancer Research Center throughout the world.

Watch the movie on www.dkfz.de/en or on www.youtube.com/watch?v=QykkByIJ3II.

future challenges

Next-Generation Radiooncology by Heinz-Peter Schlemmer

Hardly any other research program of the DKFZ is as important for cancer diagnostics and therapy as the field of radiology with its imaging methods, radiation therapy approaches and nuclear medicine issues. Subsequently, the DKFZ promotes this research program with the appointment of promising talents as new division heads. Moreover, with the construction of a new building for radiology the center provides a state-of-the-art environment. With these decisive steps, the DKFZ will be well-prepared to face the huge clinical and methodological challenges of the future.

The Research Program Imaging and Radiooncology



The Research Program is currently undergoing a generation turnover:

Heinz-Peter Schlemmer followed Ulrich Kauczor in 2010 as Head of the Division of Radiology.

Klaus Kopka succeeded Michael Eisenhut as Head of the Division of Radiopharmaceutical Chemistry in 2013.



In the same year, Mark Ladd took the

position of Wolfhard Semmler as Head of the Division of Medical Physics in Radiology.



Oliver Jäkel succeeded Wolfgang Schlegel as the Head of the Division of Medical

Physics in Radiation Oncology in 2014.

An academic appointment procedure for the position of Hans-Peter Meinzer as the Head of the Division of Medical and Biological Informatics will be initiated in the near future.



The Division of Radiology is developing imaging methods to detect cancer at an early stage, biologically characterize the disease and monitor its progression. Morphological, functional, metabolic and targeted molecular imaging will be integrated for individualized 3D/4D radiotherapy planning, guidance, and monitoring of treatment to achieve optimized tumor control and to minimize side effects. Cross-sectional imaging techniques and technologies will be advanced. Complex imaging data for tumor morphology and motion, the microenvironment, and vascular supply as well as for molecular, metabolic and functional characteristics will be implemented in clinical studies for individualized therapy planning and may serve as surrogates and biomarkers for therapy monitoring.

The team of the Division of Medical Physics in Radiology develops new and optimizes existing methods for imaging-based diagnostic and therapeutic procedures. Novel acquisition and reconstruction strategies are being developed for multiple tomographic modalities including MRI, CT, PET, SPECT, and Optical Tomography. The Division aims at acquiring quantitative biomedical information about the metabolic, physiologic, and functional parameters of tumors and metastases. A significant part of the work is performed in the area of preclinical imaging methodology for application in animal models. Within the Division, the research group X-Ray Imaging and CT headed by Marc Kachelrieß aims at developing new imaging techniques, at improving image quality and at reducing patient dose in radiological imaging with x-rays. A particular focus of the research group is put on interventional imaging, where a new modality called low dose tomographic fluoroscopy has been developed. Cone-beam CT imaging in radiation therapy uses a new approach to remove the patient motion from the acquired data. An important aspect is the practicability of the methods with regard to application in patients.

In the Division of Radiopharmaceutical Chemistry, the researchers want to develop new imaging agents and cancer targeting drugs, with potential value for imaging and therapy. Tumor-specific carrier molecules are labelled predominantly with radionuclides leading to targeted accumulation in cancer cells and their microenvironment. These radiotracers serve as molecular imaging probes for positron emission tomography (PET) and single photon emission computerized tomography (SPECT). They also pave the way for *in vivo* theranostic approaches. The utilization of complementary radionuclides for both diagnosis and therapy (i.e. targeted radioendotherapy) is definitely of special importance for current and future personalized applications in nuclear medicine, leading in any case to the aforementioned *in vivo* theranostic approaches.

The Division of Medical Physics in Radiation Oncology is developing new methods and tools for all aspects of radiation therapy of cancer. This includes software development for computer based individualized therapy planning and the optimization of treatment parameters. Also hardware is being designed here to improve the radiation delivery to the patient. New radiation detectors are important to increase the accuracy and reliability of radiotherapy. To improve the understanding of radiation effects in tumors and normal tissue, radiobiological models are being developed and validated *in vitro* and *in vivo*. The Division is also involved in all aspects of medical physics in the therapy at the Heidelberg Ion beam Therapy center (HIT).

construction issues

A Forward-looking Upgrade in Infrastructure by Caroline Weschke

A modern und unique Research and Development Center for Imaging, Radiooncology and Preventive Oncology is currently under construction. With the removal of the old MRI- and University Construction Authority buildings, the required area has emerged close to the DKFZ main building. This investment in the infrastructure of the DKFZ will provide a basis for conducting innovative screening and prevention studies. It will also facilitate the application of advancements of molecular imaging in early clinical studies for treatment planning, guidance and monitoring.

The scientific projects performed in the Research Program Imaging and Radiooncology enjoys an excellent international reputation. It was recently evaluated by several international review panels and certificated with an outstanding performance. In contrast to the modern research accomplished by groups in this program, the hitherto existing building has become structurally somewhat outdated with only limited renovation options. These

A glimpse to the future: The architect's view of the Research & Development Center for Imaging, Radiooncology and Preventive Oncology

conditions made it increasingly difficult to install the required new state-of-the-art equipment, in particular large medical devices as MRI-, CT- and PET-scanners. Much-needed structural measures to fulfill the tighter regulatory requirements can hardly be implemented in all areas. This has become a hurdle for scientists who want to implement new methods and applications quickly into their research and clinical activities.

To overcome these restrictions, it was decided to build a new and modern radiological research and development center. The aim is to respond to the recent regulatory and technologically demands for optimized oncoradiological patient care as well as the topic-related research activities. Together with industrial and academic partners, the DKFZ wants to centralize all research activities in the field of imaging and radiooncology under one roof. In addition to diagnostics and therapy of oncologic

diseases this will also comprise monitoring, follow-up and prevention. The modern infrastructure will enable the development and evaluation of sophisticated imaging methods and the implementation of optimized workflows for highly individualized cancer therapies. The future building consists of six floors, two of which are subterranean. The center will have an effective area of about 8.000 sqm and will house all required large medical devices for radiological diagnostics and therapy. It is planned to provide sufficient space for related biological, physical and radiochemical laboratory research and the development of comprehensive medical informatics. The completion of the center is estimated for 2018.

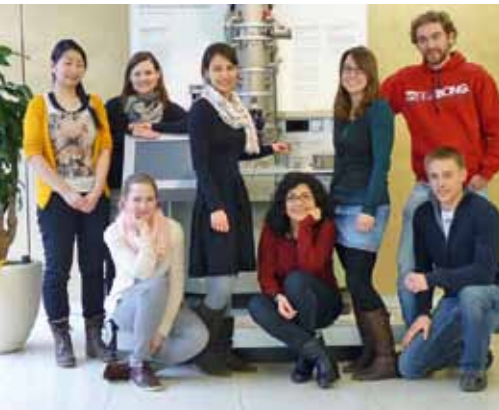


conference

PhD Students Building Bridges Across Cancer Institutes

by Ansam Sinjab

In mid-June 2014, more than 80 PhD students from eight European cancer research institutions came together for the 8th International PhD Student Cancer Conference (IPSCC) in Heidelberg hosted by the German Cancer Research Center (DKFZ). The overall aim was to discuss their work at an own scientific conference, to learn more about networking opportunities and to interact with the invited speakers in an informal setting.

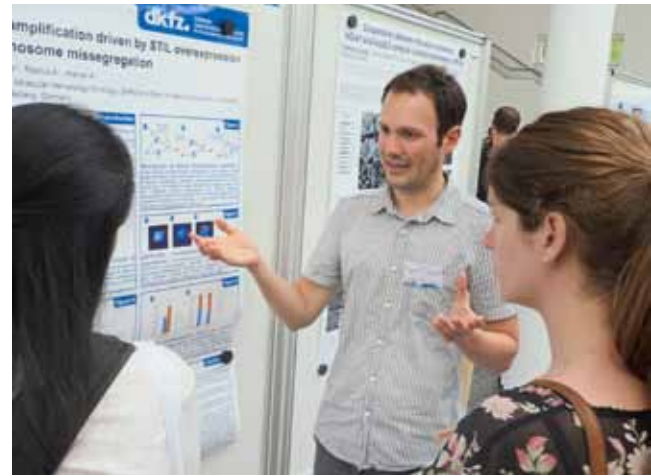


The 2014 organizing team consisted of eight DKFZ PhD students: from left, back: Janet Lei, Anja Geiselhart, Teresa Pankert, Stephanie Hoppe, Michael Suchanek, front: Klara Gießler, Ansam Sinjab and Frank Burkart.

The IPSCC is an initiative coordinated by Cancer Research UK (CRUK) and is organized “by the students for the students” of several renowned cancer research centers across Europe. This year, the organizers put together an exciting program of 20 PhD student talks and 55 poster presentations. The agenda comprised topics like cancer stem cells, cell migration and metastasis. It featured aspects of epigenetics and genetic heterogeneity, drug resistance and cellular stress. The audience was also inspired by Lutz Gissmann and his story of the HPV vaccine discovery, the socio-economic and political hurdles for its dissemination, the first successes after its introduction, the milestones ahead and the promises it holds. Furthermore, Gottfried Schatz engaged, amused and stimulated the audience with his personal anecdotes and unique, thought-

provoking viewpoints on the broader implications of science in our society and the roles of young successful scientists.

The program also featured excellent PhD talks and poster presentations, which were rewarded with valuable awards. Special congratulations go to the winners of the best talk prize: Jacqueline Fok (Institute of Cancer Research, London, 1st prize), Linda Julian (Beatson, Glasgow, 2nd prize), and David Peralta (DKFZ, Heidelberg, 3rd prize), and to the winners of the best poster awards: Jose Sandoval (CRUK, Cambridge, 1st prize), Stephanie Neuhaus (DKFZ, Heidelberg 2nd prize), and David Huels (Beatson, Glasgow, 3rd prize).



Gottfried Schatz entertained the audience of young scientists with a stimulating lecture.



Blessed with the Heidelberg summer sun, the conference attracted PhD students from several cities of the United Kingdom, Amsterdam, Heidelberg, and Milan, with all working on various aspects of cancer research. Whether over coffee, Weisswurst and Spätzle, on the boat along the Neckar, or over a chilled beer with public viewing of the Soccer World Cup, the conference provided ample time for networking opportunities in a relaxing break from the conference schedule. The participants were able to interact, exchange ideas, share experiences, and project on their future career aspirations in an informal setting. The organizers are very grateful to their generous sponsor, the DKFZ Graduate School, and everyone who contributed to the success of the conference. Plans for a sequel are underway: The next event in the series will be held in Manchester in June 2015. Don't miss the date!

collaboration

10 Years of Prospering Knowledge Exchange *by Mariela Wijnant*

The Clinica Alemana de Santiago (CAS) is one of the largest and most modern private hospitals in Chile. Its mission is to provide high-quality, comprehensive patient care and to contribute to the development of medical knowledge for the benefit of the community. A collaboration agreement with the DKFZ has enhanced the mutual exchange of know-how and research accomplishments.

The hospital was founded in 1905 and is a subsidiary of the Corporacion Chileno Alemana de Beneficencia, a non-profit organization. It takes part at Universidad del Desarrollo through a joint Medical School, which currently holds seven human health-related careers.



In 2014, for the fourth consecutive year, Clinica Alemana has been recognized as the second best hospital in Latin America by the America Economía Intelligence Ranking.

International cooperation with renowned health institutions has been a crucial aspect within the activities of Clinica Alemana throughout its history. Looking for more presence in European medicine, Clinica Alemana signed a collaboration agreement with the DKFZ on October 4th, 2004. Today, CAS has subscribed to thirteen collaboration agreements with renowned centers and institutions from the United States, Germany, Belgium and Argentina.

The agreement with the DKFZ aims to complement and share the strengths and “know-how” of two institutions with different characteristics. Its main purpose is the transfer of expertise. In this context, the role of the Clinica Alemana is to bridge this transfer, as it is located in a less privileged region and therefore can help to understand the

culture and reality of the area’s people. Radiation oncology and medical imaging have been at the center of joint development efforts during the past years. Both disciplines highly contribute to the advancement of other specialties, such as surgery and radiology. Several CAS specialists have attended training visits at the DKFZ, which have resulted in the introduction of new diagnostic imaging techniques and in the improvement of some that already existed. In addition, CAS has organized courses, seminars and workshops in Chile with the participation of DKFZ scientists. Through this agreement, Clinica Alemana has also been recognized and validated in Germany as a training cen-

ferences and workshops with local experts.

During a visit in 2013, Manfred Schwab stressed the importance to continue and enhance the collaboration. Plans have been set up to extend the collaboration to areas like molecular biology and genomics. The latter has proven



Longstanding partners in knowledge and technological exchange: Manfred Schwab and his Chilean colleague Claus Krebs

to be a valuable tool in the study of cancer, yet is still underexplored in Chile. Hopefully, further topics will be identified with potential impact on health outcomes in the Chilean population. Therefore, a delegation from CAS, namely Claus Krebs, Annemarie Ziegler and Mario Fernández, took the chance for exchange with DKFZ experts during the Alumni Meeting. In the future, a new collaboration area may address gallbladder cancer, which is very common in Chile.

Thanks to the DKFZ, CAS has been able to further develop its expertise. The appreciation for the longstanding support will be reflected in an active networking process with continued efforts. Obviously, this is a challenge that requires a big amount of work, time and patience. Tangible results will not always become visible immediately, but hopefully in the long term.

ter for German radiology residents that are interested in a stay at CAS of up to six months.

Collaboration between CAS and DKFZ has played an important role in the creation and development of a career in Medical Physics in Chile, resulting in the establishment of the Medical Physics Magister degree at two Universities, namely the Universidad de la Frontera in Temuco and the Pontificia Universidad Católica de Chile.

In the area of prevention, Martina Pötschke-Langer, a well-renowned specialist from the DKFZ, has helped to establish important links with Chilean health authorities and generously shared all her experience in tobacco control and prevention, which was relevant for the promulgation of a recent tobacco control law. In addition, she was the leading organizer of several

alumni affairs

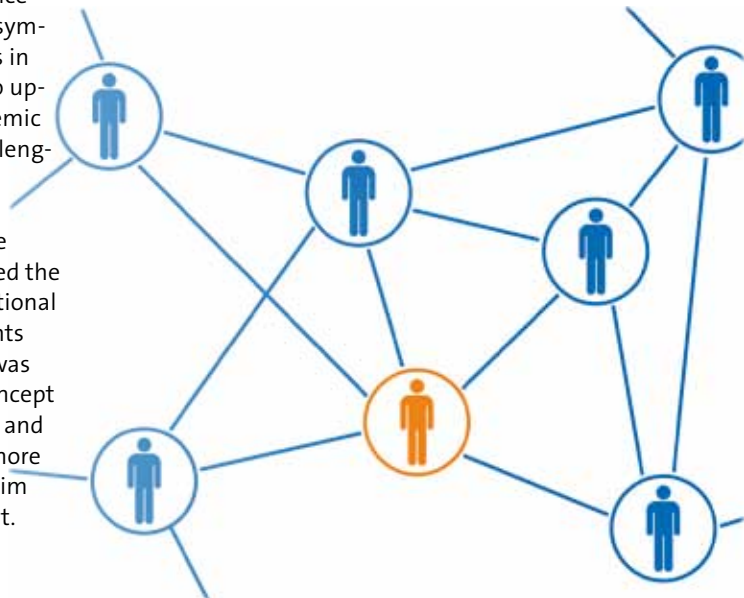
Sharing Expertise in Science Communication

by Hilke Stamatiadis-Smidt

For the first time, this year's Alumni Meeting welcomed 15 former trainees and staff members of the DKFZ's Press and Public Relations Department. The invitation was met with quite a positive feedback even from those who were not able to attend. A majority of the more than 100 former colleagues expressed their wish to fix a date for another get-together in the future. The kick-off event started with a dinner on June 26, reuniting old acquaintances and giving rise for new contacts. The aim of the next day's get-together was to initiate a brainstorming on "science communication in a changing world" and to spark the development of a program for a symposium in June next year in order to bring together many former and current representatives of public relations

at research institutions and science media. The proposed aim of the symposium is to analyze the changes in communication platforms and to update the requirements for academic activities and the upcoming challenges of the 21st century.

Both, the former DKFZ Chairman Harald zu Hausen and the science writer Joachim Pietzsch introduced the brainstorming debate. With additional contributions from the participants a nucleus for further discussion was formed. In the near future the concept will be further developed in form and content by the participants. For more information please contact Joachim Pietzsch (j.pietzsch@wissenswert.com) or Sabine Steimle (sabine.steimle@t-online.de).



Alumni goes LinkedIn

All Alumni members may take the opportunity to register with LinkedIn in order to facilitate networking efforts and to make scientific profiles and qualifications easily accessible. LinkedIn users will also profit from continued information on national and international events via the DKFZ Alumni Association.

Find out about careers of other Alumni in our LinkedIn group on www.linkedin.com/groups/DKFZ-Alumni-6534913.

Reception

Thursday, February 19, 2015, 16.30 h
DKFZ Alumni Reception for international scientists and their German colleagues

Motto: A taste of Latin America
Location: DKFZ, Communication Center, Lecture Hall

SAVE
THE DATE:
February 19,
2015

New Members

Amelie Benk, Stuttgart // **Prof. Firouzeh Biramijamal**, Tehran, Iran // **Dr. Alexander Brunner**, Wiesbaden // **Chen Chen**, DKFZ, Heidelberg // **Dr. Celina Cziepluch**, DKFZ, Heidelberg // **Michaela Detlefs-Doege**, Langenfeld // **Prof. Stefan Eichmüller**, DKFZ, Heidelberg // **Dr. Sebastian Florescu**, DKFZ, Heidelberg // **PD Dr. Marika Ganten**, Heidelberg // **Stella Göhler**, DKFZ, Heidelberg // **Dr. Adam Gondos**, Heidelberg // **Dr. Bartłomiej Grychtol**, Mannheim // **Prof. Wolfgang Hagmann**, DKFZ, Heidelberg // **Rafael Josupeit**, Eppelheim // **Adriana Jou**, Porto Alegre, Brazil // **Courtney Anne König**, Heidelberg // **Laura Kuhlmann**, Heidelberg // **Dr. Amit Kulkarni**, DKFZ, Heidelberg // **Patrick Kunz**, DKFZ, Heidelberg // **Prof. Jan-Heiner Küpper**, Senftenberg // **Dr. Katrin Letschert**, Wiesbaden // **Dr. Hai-Kun Liu**, DKFZ, Heidelberg // **Prof. Tommy Martinsson**, Göteborg, Schweden // **Dr. Tuba Mizani**, DKFZ, Heidelberg // **Shakhanwan Mustafa**, Heidelberg // **Dr. Stefan Nickels**, Darmstadt // **Dr. Ali Nowrouzi**, DKFZ, Heidelberg // **Dr. Rosario Piro**, DKFZ, Heidelberg // **Barbara Ritzert**, Pöcking // **Prof. Wolfgang Schlegel**, DKFZ, Heidelberg // **Dr. Michel Schummer**, Seattle, USA // **Philipp Seidel**, DKFZ, Heidelberg // **Qiuqiong Tan**, Eppelheim // **Aoife Ward**, Heidelberg // **Huizi Wu**, Mannheim

Alumni Board

The Board of the Alumni Association has been reorganized (see also p. 7). The new panel consists of the following members:

- Prof. Dr. Manfred Schwab (Chairman)
- Dr. Barbara Janssens
- Elfriede Mang (Secretary)
- Dr. Lindsay Murrells
- Prof. Dr. Wolfgang Schlegel
- Dr. Axel Wiest (Treasurer)
- Prof. Dr. Dr. h. c. mult. Otmar D. Wiesler (*ex officio*)

Advisors to the Board:

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Dr. Konrad Buschbeck

excursion

Tracing History, Impressionists and Gewürztraminer

by Susanne Schunk

An excursion to the Palatinate concluded the 6th General Alumni Meeting from June 26 to 28, 2014. More than 45 early birds boarded the bus at 8:15 h on a Saturday morning.

The first sightseeing highlight was a guided tour at the Hambacher Schloss, the “cradle of German democracy”. In the early 19th century the Hambach Castle within the Palatinate region on the west bank of the Rhine belonged to the Kingdom of Bavaria. The formerly French Palatinate had been a last resort for liberal authors and intellectuals, who then had to face reactionary Bavarian policies. In January 1832, a number of journalists had established a democratic association for freedom of the press and speech, which almost immediately had been banned by the state government. In turn, the initiators had called for a “fair” at Hambach Castle, as any demonstrations were prohibited. About 30,000 people from all society classes – workmen, women, students, scholars, and politicians from all over Germany as well as from France and Poland – had gathered at the castle. Considered a milestone in German history, with this event a republican movement had made its mark in the country for the first time. The idea of a democratic movement for a united Germany was symbolized with black, red and gold, which, after World War I, were adopted as the national colors of Germany.

From the Hambach Castle the group of Alumni and some guest scientists headed directly to the next exciting heritage site, the Villa Ludwigshöhe Palace in Edenkoben. The villa was built by Ludwig I of Bavaria as a Tuscan style summer resort that impressed with its neo-classical interior. The group had two guided tours here, one exploring the history of the building and the other with a presentation of an arts exhibition of Berlin impressionism.



A lovely view on the palatinate villages and vineyards awaited the group of Alumni and guest scientists at the Hambacher Schloss.



A history lesson on the controversies of “Meinungsfreiheit und Zensur”, i. e. Freedom of opinion and censorship, and the fight for liberal policies



After these visits lunch was much enjoyed with local food and local wine at the Marienhof in Flemlingen, a first class wine-growing estate nearby. Finally, the group set out for a guided walk through the old village of Rhodt unter Rietburg. The picturesque hamlet has been cultivating wine for over 1200 years, with 400 years old still productive grapevines, mainly Gewürztraminer – a shining example of Palatinate history.



All these impressions of history, art, and above all the inviting landscape of this very special region led to vivid exchange and talking among the international group of the participants, with some coming from as far as the USA, Mexico, China, India, Israel, and Iran.

Imprint

Alumni

Deutsches Krebsforschungszentrum
Heidelberg
Im Neuenheimer Feld 280
D-69120 Heidelberg, Germany
Phone: +49 (0) 6221 42-4499
Fax: +49 (0) 6221 42-4498
Internet: www.dkfz.de/alumni

Editing/Layout/Desktop Publishing:
Dagmar Anders

Chairman of the Board:
Prof. Dr. Manfred Schwab

Secretary:
Elfriede Mang (alumni@dkfz.de)
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BIC/SWIFT: Solade S1 HDB



CONGRATULATIONS: One week after the good news from Stockholm the DKFZ held a grand reception in honor of Stefan Hell (left). About 500 employees celebrated "their" Nobel Prize winner.

Red Carpet for Nobel Laureate Stefan Hell

For his pioneering work in the field of ultra high resolution fluorescence microscopy Prof. Stefan Hell, Director of the Max-Planck Institute for Biophysical Chemistry in Göttingen and Head of the DKFZ Division Optical Nanoscopy, has been awarded this year's Nobel Prize in Chemistry. The highest distinction in science rewards many years of tireless research during which the physicist achieved a ten-fold increase in the resolution of light microscopy. "Stefan Hell is an absolutely exceptional scientist," says DKFZ Director Prof. Otmar D. Wiestler. "He has taken microscopy to a completely new dimension."

"During my PhD thesis work, I already suspected that the matter of light microscopy had not yet been entirely thought through," Stefan Hell remembers. At that time light microscopy was believed to have reached its limits at 200 nanometers, as defined by Ernst Abbe in 1873. With the invention of the 4Pi microscope in the early 1990s, Hell was able to break this "magic" barrier for the first time. Further efforts led to the development of "stimulated emission depletion" (STED) microscopy. The technique based on fluorescence dyes can visualize biological structures that are up to 2000 times thinner than a human hair.

"The Nobel Prize makes me very proud and grateful," says the 52 years old researcher who earned his PhD in physics from the University of Heidelberg and later on worked at the European Molecular Biology Laboratory (EMBL). "But most of all it is exhilarating for me to see how the STED microscope has empowered basic research in medicine." Electron and scanning probe microscopes require ultra-thin sections. This makes it impossible to study intact cells. "STED microscopy delivers nanoscale insights into living cells, without these restrictions."