Reports of EACR Sponsored Meetings

EACR has been pleased to support a range of valuable meetings across Europe over the past twelve months. In addition to sponsorship, the Association has, on occasions, provided Poster Prizes and Researcher Award Bursaries.

33rd European Symposium on Hormones and Cell Regulation
Understanding the Molecular and Cellular Biology of Endocrine-Related Cancers

Mont Sainte Odile, Alsace, France
11th -14th September 2008

Like the previous editions of this well-established series of symposia, the 33rd European Symposium on Hormones and Cell Regulation took place in the beautiful setting of Mont Sainte Odile, in Alsace, under the patronage and sponsorship of the University of Naples Federico II, the Second University of Naples, and the European Association for Cancer Research (EACR). The theme of the symposium, which was organized by Giancarlo Vecchio (Italy) and Michele Grieco (Italy), was “Understanding the molecular and cellular biology of endocrine-related cancers”.

The Mont Sainte Odile Symposia, which are residential, are recognized for the pleasant and relaxed atmosphere that encourages the exchange of scientific knowledge and interaction between the Faculty and participants, and the 33rd symposium was no exception. All sessions were well attended, despite the attractions of the surroundings, and discussions were lively and fruitful. A total of 86 scholars from 12 different countries attended the symposium.

The first session was devoted to the Molecular genetics of thyroid cancer. D. Williams (UK) reported on normal and malignant thyroid cell growth and the possible role exerted by stem cells. M. Santoro (Italy) discussed molecular mechanisms involved in thyroid cancer progression to anaplastic carcinoma showing the upregulation of Polo-like kinase 1 and the ability of a small inhibitor of this molecule, BI2536, to induce massive apoptosis of anaplastic cells. B. Jarzab (Poland) reported on thyroid cancer transcriptome and its relationship to tumour biology, diagnosis and clinical data. A. Fusco (Italy) focused on altered microRNA expression in thyroid cancers that led to the identification of two microRNAs involved in papillary carcinomas.

After dinner, R. Agami (The Netherlands) gave a keynote lecture on cancerous microRNA and regulatory RNA binding proteins and reported on the identification of microRNAs involved in human testicular germ cell tumours, glioblastomas, melanomas and resistance to anti-hormonal treatment of breast cancer.

The second day of the symposium opened with a session devoted to General aspects of endocrine cancer initiation and progression, in which C. Stratakis (USA) reported on cAMP signalling and endocrine tumours, showing that the regulatory subunit type 1-alpha of protein kinase A is mutated in most cases of Carney complex, whereas phosphodiesterase-11A is mutated in isolated adrenal hyperplasia and Cushing syndrome patients. G. Williams (UK) discussed cell cycle markers and their use as diagnostic and predictive tools for breast cancer and presented results obtained with a multiparameter analysis of core regulatory proteins involved in G1-S and G2-M cell cycle phase transitions. M. Baccarini (Austria) presented data on mouse strains in which Raf-1 and B-Raf had been conditionally ablated by the Cre/loxP system, giving new insights on the role exerted in vivo by these kinases in tumour development and maintenance. V.M. Rangnekar (USA) showed that a transgenic mouse with ubiquitous expression of Par-4 is resistant to a number of tumours, including prostate cancer, thus suggesting this molecule has therapeutic potential. V. Detours (Belgium) discussed gene expression predictors for breast cancer outcome and reported on a new signature based on PCNA as a tool to validate the predictive ability of microarray data.

In the evening keynote lecture, A. Balmain (USA) illustrated new results obtained with mouse interspecific crosses demonstrating that this genetic approach is very effective for discovering new
cancer susceptibility genes. New bioinformatics tools for constructing SNP and gene expression networks associated with phenotypes involved in cancer susceptibility were also presented.

In the session Molecular genetics of breast, ovary and prostate cancer, D. Birnbaum (France) showed results obtained by high density array comparative genomic hybridization combined with gene and protein expression analyses, demonstrating differences in genomic profiles between basal, luminal and inflammatory breast cancers. S. Canevari (Italy) reported on gene expression profiles of ovarian cancers and on the use of new bioinformatics tools for the identification of reliable markers predictive of worse response to therapy or shorter survival. A.L. Børresen-Dale (Norway) described the identification of novel breast cancer susceptibility genes associated with molecular subtypes and underlined the importance of conducting stratified SNP-disease association studies to obtain a more powerful classification.

The following session focused on General aspects of tumour suppression mechanisms. EACR-sponsored speaker J.C. Marine (Belgium) reported on Mdm2 and Mdmx oncogenic properties in vivo using conditional transgenic mice, and discussed the possible use of these mice as preclinical models for retinoblastoma and melanoma tumour development. S. Mazoyer (France) showed that truncating mutations in BRCA genes trigger transcript degradation through nonsense-mediated mRNA decay. M. Collado (Spain) reported on the role exerted by senescence in cancer protection describing inducible knock-in mouse models of K-RasV12 and BRAFV600E which showed the abundance of senescent cells in pre-malignant lung lesions and their absence in lung adenocarcinomas.

In a keynote lecture, J. Knoblich (Austria) discussed data on asymmetric cell division and proliferation control in Drosophila and in mouse neural stem cells, showing the role exerted by the brain tumour gene Brat in regulating neural stem cell proliferation. He also illustrated the molecular mechanisms involved in asymmetric stem cell division and proliferation.

The last session of the symposium was devoted to Stem cells and endocrine-related cancers. R. De Maria (Italy) described new technologies to isolate and expand in vitro cancer stem cells from several tumours and reported on genome-wide expression of mRNA, microRNA and proteome profiles of these cells. C. Caldas (UK) showed results demonstrating that breast cancer can develop from breast epithelial stem cells or their progeny, such as transit amplifying cells or committed differentiated cells, giving rise to heterogeneous molecular profiles. P.G. Pelicci (Italy) showed new strategies for isolating breast cancer stem cells, G. Stassi (Italy) for isolating thyroid stem cells, and F. Frame (UK) for isolating prostate cancer stem cells. The potential of these cells for new diagnostic, prognostic and therapeutic approaches was highlighted and discussed. D. MacLaughlin (USA) reported the identification of ovarian cancer stem cells expressing the receptor for Mullerian inhibiting substance, and discussed the possibility of using MIF to enhance chemotherapeutic agents activity.

Slavica Tudzarova

Poster Prizes, sponsored by the EACR, were awarded to Slavica Tudzarova (University College London, UK) for her poster entitled “Cell cycle phase progression analysis identifies unique replication phenotypes of major prognostic and predictive significance in cancer”, and to Alessandro Scopelliti (University of Palermo, Italy) for his poster illustrating the “Identification of a subpopulation of colon CSCs with metastatic potential.”

Alessandro Scopelliti
Association for Radiation Research Annual Meeting

Hulme Hall, Manchester, UK. 17th - 19th March 2008

Kaye Williams

It was my pleasure to be the local organiser of this year’s Association for Radiation Research (ARR) meeting. The meeting was held at The University of Manchester using the Hulme Hall conference facilities.

The ARR is a multidisciplinary organisation which aims to promote learning and advance education in the field of radiation research and to extend, increase and disseminate knowledge of radiation research in the fields of biology, chemistry, physics and other related areas. Consequently in our annual general meetings we aim to put together a programme of high quality speakers that span the diverse disciplines that are under the umbrella of “radiation research”. Within this year’s meeting we focused upon illustrating how basic research has been translated into new therapeutic strategies for cancer, be that through the development of drugs that target key components underpinning radiation response, or through a greater understanding of how to best apply radiation in clinical practice.

We really aimed high with our target speakers and were very privileged to welcome Professor Sir David Lane to present our keynote lecture featuring “New controls on p53 functions isoforms and molecules”. Professor Lane was in good company with internationally renowned speakers from both sides of the Atlantic presenting plenary lectures within each of our focussed sessions. These covered Molecular targets (Mike Horsman [DK], Gillies McKenna [UK]), Microenvironment (Adrian Harris [UK], Denise Chan [US], Ian Stratford [UK]), Normal tissue response (Martin Hauer Jensen [US], Michelle Martin [FR]), Radiation, Chemistry and Physics (Peter Wardman [UK]), Non-targeted effects (Eric Wright [UK], Ed Azzam [US]), DNA Repair (Jo Bentley [UK], Steve Jackson [UK]), and Radiation Signal Transduction (Paul Dent [US], Ashok Venkitaraman [UK]) and on the final day held a Clinical showcase (Bleddyn Jones [UK], Isabel Syndikus [UK]) with topic specific sessions on Radiosensitivity and modification (Susan Short [UK], Adrian Begg [NL]), Translational research (Michelle Saunders [UK], John Yarnold [UK]) and Targeted radiotherapy (Tim Illidge [UK], Mike Zalutsky [US], Mark Gaze [UK]).

It was also a great pleasure to welcome Professor Jack Fowler and Dr Peter Bryant, who along with Professor Peter Wardman were made honorary members of the society in recognition of their long service to the ARR and the field of radiation science. It was a meeting of multiple awards for Professor Wardman, who was recipient of the Silvanus Thompson Award on behalf of the British Institute of Radiology.

It is impossible to run any meeting without generous sponsorship. This year we were delighted to be supported by the EACR who provided funds to cover the attendance of one of our European speakers (Dr Mike Horsman) and also to support a travel fellowship that was awarded to Tina Bauerschmidt, (Radiation Oncology & Biology and Gray Cancer Institute, University of Oxford, UK), the young scientist who submitted the highest ranked abstract for oral presentation at the meeting. Tina’s personal experience of the ARR meeting is detailed below. Without this kind of contribution we would be unable to invite the speakers we wish to invite to ensure that we maintain our high standard of scientific programme. Of course we would also be unable to host a suitable social programme to keep up with the high quality of the research! With that, I would like to again extend my thanks to the EACR and all of our other sponsors and everyone who helped with the scientific and social programmes. The next ARR meeting is to be held at the University of Glasgow, 22nd-24th June 2009 where the hosts are Dr Marie Boyd (m.boyd@beatson.gla.ac.uk) and Dr Rob Mairs (r.mairs@beatson.gla.ac.uk). We’ll look forward to seeing you there! Kaye Williams

Kaye Williams, EACR sponsored speaker (Mike Horsman) and travel award recipient (Tina Bauerschmidt)

Tina Bauerschmidt:
The Association for Radiation Research (ARR) holds an annual meeting hosted by different participants each time. This year’s meeting was in Manchester, it was my second ARR conference and I was looking forward to it because of the great experiences I had at the last one. The ARR covers all aspects of Radiation Science from environmental through to clinical.

When I arrived I was warmly welcomed and made to feel like part of a big family where everyone knows everyone. The atmosphere seems to be specific to the ARR because I also experienced this at the previous ARR meeting. The Manchester programme looked very interesting and sessions were arranged in a tight schedule to give time for presentation and discussion of a broad range of research associated with radiation biology and chemistry.

The first highlight for me was the ‘Microenvironment’ session on Tuesday afternoon where Ian Stratford was one of the
5th International Conference on Cancer Prevention

St. Gallen, Switzerland. 6th - 8th March 2008.

Ursula Kapp, Florian Otto, Hans-Jörg Senn

More than 180 international experts from 30 countries met for the fifth time in St. Gallen, Switzerland for a three day conference to discuss the important issue of cancer prevention. The local organizers were Prof. Hans-Jörg Senn, M.D., Prof. Ursula Kapp, MD and Prof. Florian Otto, MD – all from the Tumour Center ZeTuP (Detection, Treatment and Prevention) in St. Gallen and Chur, Switzerland.

The first session traditionally was focussed on health politics, because the international health care systems still do not spend enough money on the important goal of cancer prevention. As Hans Jörg Senn pointed out in his welcome lecture, our health systems are still completely "treatment-oriented"! In Switzerland – and in many other countries – we spend more than 98% of our national health budget of >50 billions Swiss Francs on "cure and care". In contrast, less than 2% is reserved for disease prevention, and only a small part of it to prevention of cancer! He even predicted that it might turn worse: As money gets short for "cure and care". From his point of view this is short-sighted in the long run – but cheaper at present time – at least for our politicians!

As opposed to Hans Jörg Senn, who emphasised the prevention versus “cure and care” divergence he raised the possibility of a “cancer prevention-therapy convergence”. From his point of view the real target of prevention should be the status of microneoplasia that can be eradicated and detected by markers or molecular risk assessment. In his talk he focused on oral premalignancies and the incidence of head and neck squamous cell carcinoma (HNSCC). A genetic test was developed that applies a sensitive PCR technique and uses highly polymorphic microsatellite markers to determine loss of heteroygocity (LOH) in chromosome regions containing critical tumour suppressor genes like p53. He reported that leukoplakia lesions with LOH carried a higher risk of HNSCC.

However, prospective studies are still needed. Also other biomarkers for early cancer development were discussed as David Sidransky (Johns Hopkins University, Baltimore, USA) gave insights into his investigation of hypermethylation as an early marker for HNSCC, lung, prostate or bladder cancer.

Scott M. Lippman (MD Anderson Research Center, Houston, Texas). As opposed to Hans Jörg Senn, who emphasised the prevention versus “cure and care” divergence he raised the possibility of a “cancer prevention-therapy convergence”. From his point of view the real target of prevention should be the status of microneoplasia that can be eradicated and detected by markers or molecular risk assessment. In his talk he focused on oral premalignancies and the incidence of head and neck squamous cell carcinoma (HNSCC). A genetic test was developed that applies a sensitive PCR technique and uses highly polymorphic microsatellite markers to determine loss of heteroygocity (LOH) in chromosome regions containing critical tumour suppressor genes like p53. He reported that leukoplakia lesions with LOH carried a higher risk of HNSCC.

Ugur Sahin (Johannes Gutenberg University, Mainz, Germany) gave an interesting talk on cancer specific gene products that give rise to cancer associated autoantibodies, which are possible diagnostic markers. He found these autoantibodies can be detectable several years before cancer diagnosis. The relevance of this finding is currently unclear, but might be a diagnostic marker in the future.

Very interesting recent developments were presented...
on the topic of nutrition, diet and food compounds. Michael Pollak (General Jewish Hospital, Montreal, Canada) gave insights into the effect of energy metabolism on cancer risk. Risk is influenced by BMI, caloric intake, birthweight and exercise. All these factors influence serum levels of insulin and IGF-I, that mediate at least in part the effects of energy balance on risk. Anti-IGF-I-receptor drugs are in development and phase I/II trials ongoing. Anthony Howell (University of Manchester, UK) also presented a paper dealing with metabolic aspects of cancer prevention. It has been shown that continuous energy restriction (CER) or exercise reduce risk, especially in postmenopausal breast cancer. Howell could demonstrate intermittent energy restriction (IER, 650kcal on 2 days per week) may be superior or at least as effective as continuous energy restriction (CER, 1500kcal/day). Interestingly the insulin serum level was more reduced with IER. Wanda Baer-Dubowska (University of Medical Sciences, Poznan, Poland) investigated the effect of chemopreventive isothiocyanates that are present in cabbage juice and modulate the expression and activity of phase 1 and 2 enzymes like CYP1A P450 in a Wistar rat model. Also new data were presented concerning chalcones present in cloudy apple juice or in Kawa tea. Clarissa Gerhäuser (German Cancer Research Center, Heidelberg, Germany) demonstrated that polyphenols may reach the colon after oral intake in an active status and still might be capable to prevent adenoma formation. Functional studies with recovered ileostomy effluents from patients treated with apple juice showed a transient increase in radical scavenging activity with a maximum at 4h after apple juice consumption. This suggests that polyphenols may reach the colon and exert a local antioxidant effect. Kava is a traditional beverage in the South Pacific Island region. Epidemiological information implies that kava might be chemopreventive against lung tumourigenesis. Chengguo Xing (University of Minnesota, Minneapolis, USA) presented data about a mouse model for lung tumourigenesis showing that 30 weeks of oral kava intake significantly lowered lung tumour multiplicities to a 56% tumour reduction, due to inhibited proliferation and enhanced apoptosis mediated by reduced NF-kB activation.

Chemoprevention by aspirin and NSAIDs was discussed for the first time by a panel of international experts in cancer prevention on the third and last day of the conference. The attempt was made to find an international consensus recommendation for the use of aspirin in cancer prevention. The evidence that NSAIDs interfere with carcinogenesis in the large bowel is clear. Only slight or even no evidence could be shown for reduction of breast cancer, but maybe for other cancers, e.g. lung. Toxicity and cost also was discussed by the experts. Coloscopy for example is more cost effective compared to daily aspirin. No general recommendation for the regular intake of aspirin was made by the experts. More research has to be done investigating which risk groups qualify for cancer prevention with aspirin, which dose might be the best and what could be the best duration of aspirin use. The discussion is ongoing and a consensus paper is going to be published.

The organizers plan to invite dedicated scientists, epidemiologists and clinicians, interested in primary and secondary cancer prevention already now to the next conference, which will be held in St. Gallen in mid-March 2010.

*Prof. Dr. med. Ursula Kapp*

**International Mini-symposium on Systems Biology of Cancer**

Rehovot, Israel

2nd - 3rd September 2008

It is with appreciation and thanks that I report to you on the EACR-supported international mini-symposium on Systems Biology of Cancer, which was held in Rehovot, Israel (September 2-3, 2008). The programme included three sessions on the following topics:

1) **Systems Biology of Biological Networks** (Chairman: Yinon Ben-Neriah)

   Speakers: Boris Kholodenko, David Gilbert, Eytan Domany, Masha Niv (selected poster) and Ravi Iyengar.

2) **Biochemical Analysis of Complex Signaling Pathways** (Chairman: Gideon Rechavi)

   Speakers: Michael Yaffe, Kun-Liang Guan, Piero Crespo, Rony Seger, David Engelberg (selected poster), and Richard Marais.

3) **Clinical Applications of Signaling Networks** (Chairman: Ron Pinter)

   Speakers: Gordon Mills, Marco A Pierotti, Josep Tabernero, Noam Shomron (selected poster), Varda Rotter (selected poster) and Stephen Friend.

The meeting was organized and co-sponsored by St. Gallen Oncology Conferences (SONK), ESO, ISCC, ESMO, CRUK, ECPO, and this year for the first time also by the UICC, EACR, ACS and the KLS. Very little support came through the pharmaceutical industry.

**Conference Participants**

Overall, the mini-symposium was a successful event; it attracted some 150 participants, from Israel,
The 50th Annual Meeting of Italian Society of Cancerology (SIC)

“Towards novel anticancer therapeutical targets”

Naples, Italy, 6th – 9th October 2008

The 50th Annual Meeting of Italian Society of Cancerology (SIC) whose scientific coordinator was Dr. Alfredo Budillon, from the Istituto Nazionale Tumouri G. Pascale of Napoli, was held in Naples, Italy, on October 6 – 9 2008 with the significant title: “Towards novel anticancer therapeutical targets”.

The meeting assembled an outstanding panel of speakers and a scientific programme that featured basic, translational and clinical cancer research with over 300 scientists coming from all over Italy to attend the scientific session.

Prof. Daniel Zajfman, President of the Weizmann Institute, Prof. Yosef Yarden, Chair of the Conference, Prof. Yinon Ben Neria, Hebrew University of Jerusalem.

As you well know, the field of cancer systems biology is in an embryonic phase, but the potential of this marriage between oncologists and modeling experts holds a great potential. For example, among the topics discussed in Rehovot where issues like patient resistance to targeted and conventional therapies, network biology, dynamic models, as well as tumor markers, patient stratification and predictors of response to drugs.

Last, I would like to thank you and the Association for the generous financial support which we used as a seed to raise more money. EACR’s support was used to enable participation of two distinguished scientists, namely: Prof. Richard Marais and Prof. Gordon Mills.

Thank you again for your great and generous support.

Yosef Yarden,

Raffaella Giavazzi, Gios Bernardi and Adriana Albini.

The sessions mainly focused on the definition of mechanism of cancer disease and on multidisciplinary approaches for the development of novel anticancer therapeutical approaches as well as new predictive, prognostic and diagnostic markers.

The inaugural session was on oncogenic receptors with invited speakers including Yosef Yarden, who presented a talk on “EGFR and HER2: an oncogenic alliance and therapeutic interceptors”, Paolo Comoglio who presented updates on the MET targeting Therapy and Pier Paolo Di Fiore presenting data on Oncogenes Notch and Numb.

Several other plenary sessions were devoted to crucial topics such as epigenetics, tumour immunology, “omics” approaches, tumour microenvironment and innovative cancer treatments. In addition, the controversial and highly debated topics of cancer stem cells and molecular cancer drugs-induced toxicity, were discussed in the joint meeting sessions with the Italian Association of Cell Culture (AICC) and the Italian Association of Medical Oncology (AIOM), respectively.

A particular session was also dedicated to Prof. Giorgio Prodi, founder of the first Cancer Institute in Italy with two Plenary Lectures by Prof. Gabriella Zupi and Ada Sacchi, from the Institute Regina Elena in Rome.

As always, and together with presentations from top scientists, SIC tried to stimulate young investigators’ active participation in the annual meeting through a dedicated young investigator session and by selecting young presenters for the poster discussion sessions. One poster from Dr. Sonia Garofalo was awarded an EACR dedicated grant.

SIC President: Adriana Albini, EACR Executive Committee member: Raffaella Giavazzi.
Award winner: Sonia Garofalo and EACR Past President Marco A Pierotti.
On May 20-24, Genoa hosted the 30th General Assembly and Scientific Conference of the Organization of the European Cancer Institute (OECI). To celebrate the anniversary, a European Oncology Week was organized. The European leading experts who participated in the OECI 2008 Scientific Conference focused on the emerging field of nanomedicine. The discussions and recommendations presented in Genoa aimed at promoting European leading-edge research and continuing development in this area.

Recent years have witnessed an unprecedented rapid growth in biological sciences, so that the explosion of nanosciences couldn’t have happened in a better period. Nanotechnologies offer a paradigm-changing opportunity to study normal and cancer cells and to interact with them in real time and at the molecular scale. Manipulation of the chemo-physical properties at these scales gives the researchers the ability to build up and use nanoparticles for different purposes, as drug delivery vectors, image contrast agents and diagnostic tools.

There is increasing optimism that nanotechnologies applied to medicine will bring significant advances in cancer diagnostics and therapy, but many challenges still have to be met. Even though some applications in tumour targeting, drug carriers, imaging and early detection have already been developed and tested, nanotechnology, like all powerful technologies, can raise safety and ethical issues if used irresponsibly. Ongoing work must and will help clarify such issues. Sensible regulation can minimize risks and establish a framework in which nanotechnology is used to fulfill broadly agreed social goals. Meanwhile nanotechnology companies and scientists must be encouraged to engage in productive communication with potential users and stakeholders at an early stage to facilitate both technological development and public acceptance.

Consideration should be given to the environmental impact and to a safety assessment of the whole manufacturing process. A risk-benefit assessment is needed of both acute and chronic effects of nanomedicine on potential patients. As referred to by Professor Umberto Veronesi and Professor Mauro Ferrari in the opening lectures, nanotechnology will revolutionize all aspects of oncology, from basic research to molecular imaging, from laboratory diagnostics to early detection and mass screening, from targeted and personalized therapeutics, to symptom management and end-of-life concerns. As pointed out by Professor Veronesi, we are moving toward a Technology Assisted Oncology (TAO), and Professor Ferrari supported the project of the Alliance for Nanotech in Cancer. The world of nanotech in Cancer belongs to those that are capable of bypassing the traditional institution-centric, myopic views, and will be able to forge veritable alliances. This was the message from the NCI’s program of 2005, and this determined the funding priorities.

The same message has been repeated by European leading cancer centres and scientists participating in the Genoa event. Cancer needs not be the scourge it has been for humankind throughout history. Cancer needs not be a death sentence for anyone, or a sentence to suffering. The conquest of cancer is within reach – it will involve the revision of our collective thinking from ‘eradicating cancer’ to ‘living with cancer with no loss of quality or length of life’. This is a realistic goal, which may be attained with a combination of prevention, screening, early detection, personalized diagnostics, personalized intervention, and continuous monitoring. Nanotechnology is a fundamental implement for all of these – but success in any of them can be better attained by the synergistic integration within the more customary disciplines of clinical oncology and biological research.

Nucleic acid therapeutics (or gene therapy) has to date failed to deliver on its promise, but rapid improvements in the understanding and use of delivery technologies should reverse this situation. In his review of work, Professor Andrew Miller described the progress towards safe nanoparticles for efficient delivery of functional nucleic acids in vivo. His intention was to demonstrate the fruits of a journey from the results of initial studies in animal models of disease that...
suggested that so much should be possible in a short time, to the realization that new technologies are rarely successful so quickly, through to developments in the present day that appear to be approaching the preclinical/clinical threshold with realism but measured confidence. New chemistry is central to the design and formulation of safe nanotechnologies. Chemistry should play a central role in ensuring that nucleic acid therapeutics live up to their potential for therapy and cure, none more so than in the derivation of newer and better therapeutics for cancers.

In his concluding remarks, Professor Marco Pierotti underlined that nanotechnologies are in essence multidisciplinary and build on the expertise of numerous scientific fields, ranging from physics to colloidal chemistry, from molecular biology to membrane biophysics, from medicine to cell physiology, but experts from all these disciplines are not easily found in the cancer community. We need to be more comprehensive and to be more open in our collaborations in order to grasp emerging opportunities and take advantage of a situation where our research is getting more and more attractive for private companies. During the OECI meeting in Genoa, EU strengths have been analyzed in terms of short and long terms opportunities; the European Commission representative considered that a feasibility assessment was first of all required in order to improve EU efforts and multiply calls devoted to promoting applications of nanotechnology to cancer research.

During the OECI Genoa 2008 Oncology Week, a special Biotherapy Day took place on May 22nd. The morning session, devoted to “International Clinical Trials on Biotherapy of Cancer”, was organized by Dr. Maria Ferrantini under the auspices of the EU Infrastructure ECRIN and with the sponsorship of Alliance Against Cancer and the Istituto Superiore di Sanità (the Italian National Institute of Health). The event evolved into a discussion forum for laboratory and clinical investigators, as well as for representatives of cancer patients associations and industry. New perspectives provided by recent advances in tumour immunology and biotechnologies have been debated, as well as the barriers that need to be overcome so that biotherapy and immunotherapy can fulfil their potential of becoming the standard approaches for the management of neoplastic diseases. In the afternoon session representatives from national networks operating in the field of cancer biotherapy and immunotherapy in different European countries exchanged their experiences. The participation of representatives from the US International Society of Biological Therapy of Cancer allowed the comparison of European and USA scenarios and paved the way to joint initiatives aimed at the promotion of laboratory and clinical research in the field of bio-immunotherapy of cancer.

The Organizers express the gratitude for the generous support given by the European Association for Cancer Research.

All the conferences presentations were published in Volume 94, Number 2 - 2008 of Tumori.
The 10th annual meeting of the BTEC was successfully held in the conference rooms of the DKFZ during two days in April 2008. More than 50 researchers from the United States (US), Europe, Canada, and Israel working in the field of brain tumour epidemiology attended the meeting.

Under the meeting’s banner “Moving Forward in Childhood and Adult Brain Tumour Epidemiology”, different topics were presented and discussed by the conference participants: risk factors for meningioma (ionizing radiation, occupational risk factors, genetic and hormonal risk factors, and pathology and molecular markers) risk factors for childhood brain tumours (low and high frequency EMF, etiology of central nervous system tumours in children, genetic risk factors, risk factors from chemical exposures, and an overview of incidence and time trends in childhood brain tumours) the status of glioma research new knowledge of blood brain barrier research (an educational lecture) and recent results from current epidemiological studies (abstract session).

The annual BTEC meetings are held to bring together scientists from around the world in order to communicate the latest knowledge in the field of brain tumour epidemiology. This forum provides the opportunity for a high quality exchange of study results, discussions of methodological issues and future research in brain tumour epidemiology. Its atmosphere promotes collaborations in which joint projects can be planned, discussed and executed among members of the Consortium. In addition, the meetings include educational lectures to improve the knowledge of the participants, especially that of new members. Most presentations are available for those BTEC members unable to attend the meetings on the BTEC web site (http://epi.grants.cancer.gov/btec/index.html).

Prof Dr. O. Wiestler, the Scientific Director of the German Cancer Research Centre, opened the 10th annual BTEC Meeting with an enthusiastic welcome to the conference participants. This was followed by Mr. D. Strangman, the Chair of the International Brain Tumor Alliance (IBTA), who informed the group about the ongoing activities of the international community of brain tumour patients and their families. The IBTA addresses issues of treatment and quality of life for patients globally.

The first scientific session of the meeting was moderated by Joellen Schildkraut and included four lectures on meningioma risk factors. Mrs. S. Sadetzki, Ramat-Gan, Israel, informed the participants on the status of ionizing radiation and meningioma risk. She gave an historical overview, and presented the recent results from the follow-up of the tinea capitis cohort study performed in Israel. This study includes more than 10,000 irradiated persons and non-irradiated controls and > 5,000 sibling controls. In addition, results from other ionizing radiation studies (e.g. atomic bomb survivors) were presented especially focusing on meningioma development.

The association between ionizing radiation and meningioma risk was discussed, as well as the interaction between ionizing radiation and hormones or environmental influences. Jack Siemiatycki, Montreal, Canada, presented methods for occupational exposure assessment of different levels of measurements. The problem of correct exposure assessment in retrospective epidemiological studies and the advantage and limitations of available job exposure matrices (JEM) were critically discussed. There was a suggestion to include experts (e.g. occupational hygienists) on the research team of these studies. Preetha Rajarama, US, gave an overview on the current status of occupational risk factors for meningioma development. Lead, pesticides, and chlorinated solvents were discussed, as well as electromagnetic fields (EMF).

However, the results of the studies are not conclusive, and further research is warranted. Elisabeth Clauss, US, reported on the association between hormones and meningiomas. Larger and more recent cohort studies have provided hints for an increased risk of meningioma for hormone replacement therapy (HRT) users, while oral contraception (OC) was not associated with this tumour. There is a pending US request for a new, multi-centre epidemiological study for further studies, especially for the association between the expression of hormonal receptors (progesterone receptors, PR, or estrogen receptors, ER), genetic polymorphisms and meningioma development and grading. European and Israeli researchers have been invited to participate. This session ended with an extensive pathological overview of different subtypes of meningioma given by Andreas von Deimling, Heidelberg, Germany. New findings including genetic mutations of the NF1 and NF2 gene in meningioma subtypes and possible interaction with ionizing radiation were presented, demonstrating that NF1 mutations do not play a predominant role in...
radiation-induced meningioma. The association between meningioma progression and genes was also discussed.

The second session, held on the following day, was moderated by Ching Lau, US, and focused on risk factors for childhood brain tumours. In her interesting presentation Maria Feychtning, Sweden, explained the sources of exposure for low- and high frequency electromagnetic fields (EMF), the issue of exposure assessment and exposure misclassification. She also presented the results of various studies concerning EMF and childhood brain tumours. Lisbeth Samse Schmidt, Danmark, gave a comprehensive overview of the descriptive epidemiology of central nervous system tumours (CNS) in children based on the data given by the WHO and the Danish Tumour Registry. The association between CNS tumor development and genetic predisposition (genetic syndromes and familial aggregation) were shown. Environmental risk factors were presented with emphasis on pre-maternal risk factors (e.g. medication during pregnancy, paternal smoking and occupations). Sufficient information is still lacking on the etiology of the majority of childhood brain tumours and, as a consequence, the need and the possibility for conducting further studies were discussed.

Patricia Buffler and Roberta McKeen-Cowdin, US, presented in more detail, the genetic risk factors for specific subtypes of childhood brain tumours. The molecular genetic characteristics and pathways (also for candidate genes) were explained, as well as the differences to adult brain tumour characteristics. Epigenetic mechanisms, gene variations and gene-environment risk factors for childhood brain tumours were taken into consideration in this presentation. New genetic projects for studies of pediatric gliomas and medulloblastomas in California were presented, and the strength and limitations of these studies were discussed. The presentation of Dora Il’yasova, US, focused on the influence of chemical exposures and brain tumours in children, a topic which has been discussed for many years. The influence of the major risk factors: n-nitroso compounds (NOC), tobacco, and pesticides were reviewed critically, taking into account new knowledge on epidemiological and biological evidence. The complexity of the interaction of environmental risk factors and their possible influence on tumour development were impressively shown. The last presentation in this session was given by Peter Kaatsch, Germany, who showed incidence, time trends and regional variations of childhood brain tumours. His informative report was based on data from the German Childhood Cancer Registry and the Automated Childhood Cancer Information System (ACCIS). During the presentation of the structure of these systems and their classification system he stated their strengths and limitations and the possibility of using these systems for the observation of time trends and regional variations.

The afternoon session of the second day was opened with a very informative Educational Lecture: Blood Brain Barrier (BBB), given by Berhard Erdlenbruch, Germany. He taught the group about the molecular composition of the endothelial tight junctions, the various modes for BBB opening and the transport of small compounds, low molecular weight nutrients, vitamins, hormones, etc. across the BBB, and the role of brain vessels for tumour growth. He finished his lecture by announcing a new important area of brain tumour treatment: the improvement of drug delivery into the CNS by BBB-opening. Faith Davis, US, moderated an exciting discussion following his lecture.

The Abstract Presentation Session followed and included seven colleagues presenting results from their recent innovative studies. The first four presentations focused on glioma research. Bridget McCarthy, US, reported on a collaborative study of the epidemiology of oligodendroglioma. Bob Jenkins, US, showed slides of a case-case comparison study of the differential association of chromosome 19 SNP variants with oligodendroglioma. Ping Yang and colleagues, US, reported on a large, on-going US case-control study investigating the association between glioma in adults and genetic factors as well as medical history. Gene polymorphisms related to innate immunity and the risk of adult glioma was presented by Alina Brenner and Preetha Rajaraman, both US. Thereafter, Beata Siegmund, Germany, showed her preliminary results from an investigation in the framework of a cohort study on glioma and meningioma and the co-morbidity with autoimmune diseases. Jose Pulido and Brian O’Neil, US, reported racial and ethnic differences in primary CNS lymphoma (PCNSL), a study that was established with data from the National Cancer Institute SEER Program. In the last presentation, A. Wöhrer, Austria, presented a novel approach to population-based brain tumour epidemiology within the Austrian Brain Tumour Registry (ABTR). Manuela Orjuela, US,
presented a poster with the results of her observations concerning weight change during therapy for medulloblastoma in children. Brigitte Schlehofer, Germany moderated the extensive discussions that followed the abstract presentations.

The sessions were closed by the Business Meeting, moderated by Carol Kruchko, US during which candidates for the new executive officers in the US were presented. The election was completed after the meeting by voting per e-mail, in order to give members not present, the opportunity to register their vote.

The evening Conference Dinner provided all participants with the opportunity to discuss again the different presentations and to find partners for joint projects.

The last day started with a critical presentation on Immunology and Brain Tumour Development, given by Judith Schwarzbaum, US/Sweden. She showed the preliminary results of the role of glioblastoma stem cell expression and inflammatory-related gene expression in CD133 proliferation. This is a project between the Ohio State University, US; and the Carolinska Institute, Sweden. This lecture was followed by the talk of Joe Wiemels, USA, who reported on the role of immune system in brain tumour etiology. Besides reviewing other studies, he presented interesting results concerning glioma survival and allergy, IgE levels and SNPs. Margaret Wrensch, USA, moderated the session. Conflicting results in this field and many open questions lead to an intensive discussion between the audiences.

Melissa Bondy, US, presented the Gliogene Program Update, in which some of the meeting participants are actively involved and which has been followed with interest by other BTEC members. For those who are not involved in the Gliogene Program, she gave a comprehensive overview about the histology, the structure and the aims of the Gliogene Consortium and taught the audience how to use the Gliogene Website.

Daniela Seminara, US, followed Dr. Bondy’s presentation with an update of the National Cancer Institute (NCI), US brain tumour research portfolio. She presented the structure and characteristics of the NCI Epidemiology and Genetics Research Program (EGRP), and, especially, the possibilities of financial support available from the NCI.

Time was allotted during the final part of the meeting for Break-out Sessions for Different Working Groups. During this session new projects and collaborations could be discussed and assessed, thus fulfilling a major goal of the BTEC: to bring experts in epidemiology and etiology from the US and outside the US, in particular Europe, with the highest level of scientific expertise in the population science of brain tumours together for opportunities to develop joint projects. The positive feedback, including announcements of preliminary collaborations, from the meeting participants confirmed that the aim of the BTEC Heidelberg Meeting had been reached.

The BTEC Heidelberg meeting was made possible because it has been cooperatively sponsored by the National Brain Tumour Foundation, BTEC’s Sustaining Partner, the Pediatric Brain Tumour Foundation, the European Association for Cancer Research (EARC), the European Association of Neuro-Oncology (EANO), and the Deutsches Krebsforschungszentrum (DKFZ, German Cancer Research Center) and the donation of Bayer Health Care.

Brigitte Schlehofer

EANO is the pan-European organization that represents all the medical and scientific disciplines involved in the diagnosis and treatment of tumours of the nervous system.

The DKFZ, German Cancer Research Center systematically investigates the mechanisms of cancer development to identify cancer risk factors which may result in new approaches in the prevention, diagnosis, and treatment of cancer.
The BACR/EACR one-day symposium 2008 began with a presentation by Dr. Heiner Fiebig (Oncotest Institute for Experimental Oncology, Freiburg, Germany) on the potential of gene signatures for prediction of effectiveness in targeted and cytotoxic cancer drug therapy. The Freiburg human tumour xenograft collection led by Dr. Fiebig consists of around 400 patient-derived tumour models, established following implantation into nude mice, of which 150 of these models covering a wide range of tumour types have been well-characterised. Progress on the determination of gene signatures for both targeted and cytotoxic chemotherapy was described, offering the possibility for individualised patient chemotherapy. Impressive results in the use of gene signatures for a variety of cytotoxic agents were presented, with average response using predictive gene signatures compared to random treatment increasing more than two-fold (34% to 82%) for an average gene signature set of 85, where the mean number of tumours treated with the various drugs was 54. Oncotest offers a prediction of response service for both targeted (Avastin, Erbitux) and cytotoxic agents to the pharmaceutical industry.

Dr. Michelle Garrett (Institute of Cancer Research, Sutton, UK) described the shift in emphasis in cancer drug discovery towards targeted therapy in recent years, and the need to incorporate pharmacodynamic (PD) biomarkers in the pre-clinical phase to allow objective measurement of target modulation in the clinical setting. The “no biomarker-no project” ethos adopted by the CR-UK Centre for Cancer Therapeutics was illustrated for the ongoing PKB/AKT project. PKB/AKT is a key downstream target of the tumour suppressor PTEN, and the focus of much current interest as an anticaner drug target. Attractive features of this target include drugability (a kinase), the availability of crystal structure data, practicalities of running high-throughput biochemical screens, and the availability of biomarker assays. A fragment-based drug discovery approach was undertaken towards identification of lead inhibitor compounds, and the development of PD biomarker assays such as pGSK3b ELISA for high-throughput cellular analysis of compounds was described (GSK3b is a downstream target of PKB signalling). Future developments will include further biomarker development for clinical studies, defining the patient population for a PKB inhibitor drug (e.g. activation of PKB or PTEN status), and PET imaging for detection of mechanism-based tumour changes in the clinic.

Dr. Nadia Zaffaroni (Istituto Nazionale dei Tumori Milan, Italy) presented an overview of telomere maintenance mechanisms in tumours and their expression, prognostic significance and relevance as therapeutic targets. Functional telomeres are essential for maintaining the stability and integrity of chromosomes, preventing degradation and end-to-end chromosomal fusions. Since telomeres of human somatic cells progressively shorten with each round of cell division, sequential loss of telomeric DNA limits the proliferative lifespan in normal cells. The large majority of cancer cells have activated telomere maintenance mechanisms, the most important of which are the use of the telomerase complex or the ALT (alternative lengthening of telomere) pathway. Telomerase is a ribonucleoprotein complex that maintains and elongates telomeres through the de novo synthesis of telomeric repeats, and a number of telomerase complex inhibitors have been discovered. Dr. Zaffaroni highlighted the non-nucleoside inhibitors such as BIBR 1532, and the G-quadruplex stabilising agents...
such as telomestatin and RHPS4 as telomerase inhibitors. GRN163L represents an oligonucleotide-based approach to telomerase inhibition currently being evaluated in early clinical trials.

Recent developments and lessons learned from the development of kinase inhibitors as anticancer drugs were overviewed by Dr. Doriano Fabbro (Novartis Pharma AG, Basel, Switzerland). Dysregulation in kinase signalling pathways leads to a variety of pathologies, most notably cancer, and the development of kinase inhibitors have constituted the major oncology drug development effort in recent years. Of the 518 protein kinases encoded by the human genome, around 40 have been investigated as clinical targets for cancer, since kinases are frequently activated in cancer by a number of mechanisms including genomic rearrangements (e.g. Bcr-Abl), mutations (e.g. Kit) and enforced dimerisation by over-expression (e.g. EGFRs). The development of the protein kinase inhibitor Gleevec™ (imatinib; STI571) provided real impetus for this field, however the generation of resistance to Gleevec™ treatment (where >90 mutations have now been mapped onto Bcr-Abl conferring resistance) has provided the stimulus for the development of next generation inhibitor molecules (e.g. nilotinib). Activating mutations of Kit in imatinib-resistant GIST (gastrointestinal stromal tumours) have also led to the development of new generation agents (e.g. sunitinib) active in most imatinib-resistant tumours. Further examples of the development of mTOR inhibitors such as RAD001, a molecule with broad in vivo antitumour activity, were presented. The presentation concluded with discussion of a number of lessons learned from protein kinase inhibitor programmes; including the importance of knowledge of the kinase in the patho-physiology of disease; the need to better understand the response of mutant forms of the kinase; the question of how much selectivity is enough (for multi-targeted agents); and how the binding mode of kinase inhibitors (active versus inactive conformations) dictate selectivity, potency and resistance.

The afternoon session began with an inspiring talk by Professor Karol Sikora. Professor Sikora is Medical Director of CancerPartners UK which is creating the largest UK cancer network as a series of joint ventures with National Health Service (NHS) trusts. Professor Sikora discussed the cost of new anti-cancer therapeutics and the problems that the NHS will face funding such treatments. He emphasised that there is an urgent need for a way of predicting which patients will respond before these types of treatment are initiated. To illustrate this point data was shown for patients with colorectal cancer who were treated with cetuximab (Erbitux; Bristol-Myers Squibb, ImClone Systems). In tumours in which the KRAS oncogene was mutated there was no response to this agent and therefore this treatment regime is not appropriate for this group of patients.

Continuing with this theme, Dr Juliane Jurgensmeier (AstraZeneca, UK) discussed the need for markers that will predict patients’ responses to VEGF signalling inhibitors. At present, markers that are predictive of response to these types of agents have yet to be identified and in addition the mechanisms by which patients develop resistance to these types of compounds are unknown.

Dr Jurgensmeier explained how an understanding of these factors would be aid the ability to select the patients for which these treatments are likely to be beneficial but also to provide valuable information about alternative therapeutic targets. However, Dr Jurgensmeier emphasised that complex data sets will be required to identify and evaluate predictive biomarkers for agents with the potential to inhibit multiple targets in different regions of the tumour (vessels and tumour cells) when compared to highly selective agents inhibiting a single target. In addition, Dr Jurgensmeier stated that the technical challenge that is required to transfer biomarker assays into the clinic, and then into routine clinical practice is considerable and should not be underestimated.

Finally, Prof Claus Belka (Department of Radiation Oncology, Tubingen, Germany) showed data to illustrate how a combination of radiotherapy and surgery was able to provide effective treatments for cancer patients. However, at present radiotherapy is only a key component of treatment protocols for solid cancers. He showed a series of data to demonstrate how a combination of an understanding of molecular & cellular radiation biology (e.g. new strategies to modulate intrinsic radiation sensitivity by kinase inhibition) will lead to novel targets for optimized radiation therapy, improved tumour control and fewer side effects.

Participants in the Summer School that preceded the Symposia
Genes and Cancer
University of Warwick, UK. 8th - 10th December 2008

Kevin Ryan

EACR support ensures success of 25th ‘Genes and Cancer Meeting’

Once again, we were extremely grateful for the generous support of EACR which contributed to the continued success of this year’s ‘Gene & Cancer’ meeting which was held at the University of Warwick, UK, 8 - 10 December, 2008.

This year was our 25th anniversary year and as a result an excellent list of speakers were gathered together for this special event. As a way to mark our 25th year, past Chairs of the Organising Committee were invited to the meeting to act as chairs of specific scientific sessions.

The first session was chaired by Chris Marshall of the Institute of Cancer Research, London and was focused on Tumour Cell Biology. The session opened with an excellent talk by Kim Nasmyth (University of Oxford) who reported on the latest chapter of his groundbreaking work on sister chromatid cohesion. This was followed by Kim’s new Oxford colleague Colin Goding (Ludwig Institute, Oxford) who talked about his recent work on MITF, stem cells and melanoma. The session then changed tack, to two disease specific talks from Mel Greaves (Institute of Cancer Research, London) who presented his latest work on childhood leukaemia and Inke Nathke (University of Dundee), who talked about the recent work from her lab on the adenomatous polyposis coli protein. Wrapping up the session were talks by Julie Ahringer (University of Cambridge) who talked about RNAi screens in C.elegans that have yielded insights in chromatin regulation and Clare Isacke (Breakthrough Research Institute, London) who talked about her excellent work on tumour:stroma interactions in breast cancer.

No anniversary meeting would be correct without a vibrant Champagne reception or an equally grandiose Keynote Lecture which this year was presented by Lewis Cantley (Beth Israel Deaconess Medical Center, Boston). Lew gave an absolutely outstanding talk detailing his career from the discovery of PI3 Kinase to his excellent recent work relating in part to the dysregulation of the signalling pathways controlling PI3K in human cancer. The talk was an undoubted high point of the meeting and was both humbling and particularly befitting to see how Lew’s work has progressed in the 25 years of ‘Genes and Cancer’ meetings.

The next session of the second day was Chaired by Nic Jones (Paterson Institute, Manchester) and focused on regulation of gene expression. The session could not have been started in any better way than with a talk by Nobel Prize Winner, Andy Fire (Stanford University, Palo Alto), who talked about recent studies in the nematode, C.elegans. Sticking with model organisms, Andy’s talk was followed by an excellent presentation by Steve Cohen (Temasek Life Science Laboratory, Singapore) who reported on mechanistic insights of cell growth control in Drosophila. The next talk was by Mike Yaffe (MIT, Cambridge, MA) who presented his work on a systems approach to understanding cell signalling and chemotherapeutic responses. Nic Jones then took to the stage himself and told us about his work on ATF proteins in yeast. Last, but not least, Helen Hurst (Cancer Research UK, London and a Member of the Genes & Cancer organising committee) wrapped up the session with a presentation about her lab’s studies on AP-2 transcription factors in breast cancer.

After a few years of absence, we returned this year to having short talks which were chosen from proffered abstracts. Eric O’Neil (University of Oxford) and Vicky Cowling (University of Dundee) presented excellent talks respectively on signalling pathways downstream of DNA damage and translational control by the Myc oncoprotein. Both talks were very well received and we look forward to these proffered talks becoming a regular part of our programme in forthcoming years.

In addition to the two abstracts chosen for short talks, we once again received a large number of excellent abstracts which were presented as posters. As with previous years the judging was intense and deciding between many quality studies was difficult. In the end, we could not decide on third place and so the prize money was split between Renee Johnson (University of Bristol) and Christina Michailidou (University of Manchester). Second prize went to Sonja Heidorn (Institute of Cancer Research, London), with the first prize going to Faraz Mardakheh (University of Birmingham) for his excellent work on SPRED2 and NBR1. Our many congratulations once again go to all prize winners.

The next session of the meeting
focused on Tumour Responses and Tumour Stress. The first two talks were presented by Eileen White (Rutgers University, New Jersey) and myself and were related to the regulation and role of autophagy in tumour development and tumour therapy. Eileen gave an excellent talk on the contribution of autophagy to tumour suppression while I talked about our work involved in identifying signalling pathways that regulate autophagy in response to hypoxia. As a natural follow-on came a talk from Amato Giaccia (Stanford, Paol Alto) who talked about his seminal work to identify drugs that work in a synthetically lethal manner under hypoxic conditions. Johanna Ivaska (Turku) gave the last talk of this session in relation to her outstanding studies on the role of integrin traffic in cell division and aneuploidy.

The final session of the meeting was focused on cell signalling and was Chaired by Nick Hastie, Edinburgh. Mandy Fisher (Imperial College, London) opened the session with a talk about her work on stem cells and this was followed by two talks on the role of ubiquitin in biological processes presented by Ivan Dikic (Goethe University, Frankfurt) and Stefano Piccolo (University of Padua).

The honour of the last talk of the meeting was given to Mike Hall (University of Basel) who talked about his excellent recent in vivo work focused in understanding the mTOR signalling pathway.

All in all, this years meeting was a resounding success with quality presentations throughout. Year by year, the meeting has grown through many of you as possible in Warwick in 2009 and the years to come.

Kevin Ryan, Beatson Institute for Cancer Research (On behalf of the ‘Genes and Cancer Organising Committee’)

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**First Announcement**

The Centre for Cancer Research Nottingham (CRN), in conjunction with the British and European Associations for Cancer Research (BACR and EACR), is pleased to announce the 6th annual

**Cancer Research Summer School on New Developments in Translational Cancer Research AND**

1-day International Symposium on Cancer Drug Discovery, Development and Evaluation

Invited speakers at the 1-day symposium include:
- Anne-Lise Børresen-Dale: Institute for Cancer Research, Norwegian Radium Hospital, Oslo, Norway
- Jörg R. Schlehofer: Deutsches Krebsforschungszentrum (DKFZ), Heidelberg, Germany
- Michael Seck: Imperial College of Science, Technology and Medicine, London, UK
- Beverly A. Teicher: Genzyme Corporation, USA
- Ruth Plummer: Northern Institute for Cancer Research, Newcastle upon Tyne, UK
- Paul I Smith: Cardiff University, Cardiff, UK
- John Hartley: UCL Cancer Institute, University College London, UK

The 2-day Summer School will be held on 1st and 2nd July 2009 at the University of Nottingham and will be followed by the 1-day Symposium on 3rd July 2009.

Individuals can register for events separately or as a combined package. The Summer School will follow the highly successful format of previous years, mixing teaching (overview) presentations on contemporary topics in the field with practical demonstrations.

Registration, fees, that cover attendance, food and refreshments, are: Summer School and Symposium: £150/£50 (full rate/student rate) Symposium only: £70/£30 (full rate/student rate).

Full programmes and registration details, will be available shortly and can be viewed either via the BACR or EACR websites (www.bacr.org.uk and www.eacr.org respectively). A limited number of Travel Bursary Awards are available to non-UK based participants. Poster Prizes: 1 Winner and 2 “Highly Commended” Awards will be made on Friday 3rd July 2009. Further information is also available from Jane Doughty – janed.doughty@nottingham.ac.uk and Kathryn Wass – Kathryn.wass@nottingham.ac.uk – University of Nottingham, UK.