EACR Meetings

As well as looking forward to EACR-22 and being fully involved in the European Multi-disciplinary Cancer Congress (ECCO) in Stockholm, EACR has continued to develop its programme of smaller courses and conferences. These pages pick out some highlights of 2011 and a range of opportunities for 2012 that complement our biennial congress.

FEBS - EACR Advanced Lecture Course
Molecular Mechanisms in Signal Transduction and Cancer
Spetses, Greece
16 - 24 August 2011

“FEBS-EACR Advanced Lecture Course – Molecular Mechanisms in Signal Transduction and Cancer. Despite the mouthful of words, the title hardly conveys what the biennial Spetses Summer School offers its participants. From the outset, the programme seems comparable to other available scientific meetings, and yet I’m told repeatedly, this is the one: if you only go to one conference during your PhD, it should be Spetses”.

Lindsay Lim (second row, 5th from the right, standing just behind the ‘0’) reviews the course
Over ninety PhD students and early post-docs from around the globe cram themselves into the conference room of the Anargyrios and Korgialenios School for daily lectures. We sleep in dorm rooms, we have lunch in the dining hall, and after breaks, a bell warns us of the start of the next lecture. We are quite literally back at school, an ideal setting to re-immersse ourselves in learning.

The science we are hearing about is by no means basic, but there is an element of going back to basics. We step away from our individual project concerns so we can appreciate the bigger picture, and absorption of information is driven by simple fascination of the science presented.

With the extensive range of talks delivered by enthusiastic leaders in their fields, there is something for everyone to find inspiration in.

Tony Hunter (The Salk Institute, California), the father of tyrosine phosphorylation, explores the role of kinase driver mutations in tumourigenesis while questioning whether all phosphorylation events are biologically meaningful. Tony asks, “why phosphate?” whereas Ivan Dikic (Institute of Biochemistry II, Frankfurt) poses the same question of the modest protein ubiquitin as he highlights the diversity in ubiquitin signals.

Fred Wittinghofer (Max Planck Institute, Dortmund) provides a structural view of Ras, the “beating heart of signal transduction”, demonstrating the dramatic conformational changes behind the GTPase switch. We build on our understanding of GTPase function with Chris Marshall (Institute of Cancer Research, London), who reviews how Rho GTP-binding proteins modulate actin cytoskeletal dynamics so that tumour cells can crawl and elbow their way around the body. Topping it off with visual aids, Margaret Frame (Edinburgh Cancer Research Centre, Edinburgh) shows us exactly those different modes of cell migration through optical windows set in the dorsal flank of a mouse, used for live imaging of cancer metastasis.

Karen Vousden (The Beatson Institute, Glasgow) breaks the mould, trying to convince us that cancer is actually rare because of various protective roles of p53 and discusses possible treatments by p53 reactivation or targeting of p53 regulators. Bouwijn Burgering (UMC Utrecht, Utrecht) shows us the shared and opposing regulation of p53 and FoxO, which results in a ‘trade-off’ between cancer suppression and ageing.

Hans Clevers (Hubrecht Institute, Utrecht) offers mesmerising animations of the “clonal conveyor belt” intestinal crypt to present how stem cells fuel the self-renewing epithelium and how APC-mutant stem cells initiate colon cancer. In a very different video, Giulio Superti-Fuerga (CeMM, Vienna) uses his lab group in a party scene to demonstrate the complexities of signalling in our highly crowded cells.

Mike Yaffe (MIT, Massachusetts) and Richard Marais (Institute of Cancer Research, London) unravel paradoxes: Richard elucidates the mechanism behind how BRAF-specific inhibitors can unexpectedly activate Ras/Raf/MEK/ERK signalling in oncogenic Ras settings; Mike walks us through signalling space to depict how three different answers to the same question are all possible depending on how we dissect the data.

These are just some snapshots from the five days of lectures and sixteen speakers. While the talks were noteworthy, the true value of the Spetses meeting is undoubtedly the time spent with the experts beyond the lectures. Several evenings have dedicated “Meet the experts” sessions, but this is a complete understatement of the opportunity. In reality, you get to experience a whole week of learning, debating, dining, swimming, dancing, laughing, and –it sounds clichéd, but I did witness this– crying with the experts.

The spectrum of conversation goes from discussions of the finer details of individual research to widespread topics. Is personalised medicine the right approach to tackling such a heterogeneous disease like cancer? Maybe all the therapeutics required to cure cancer are already in existence but just not used effectively. How do we effectively mine the enormous amounts of data we are generating, can we keep up with the technologies? You can feel the speakers trying to play devil’s advocate to create evolving discussions that expand our mindsets.

We are often amazed by the shiny breakthroughs and achievements of these big hit-after-hit names; here, we are reminded of the human aspect. Margaret Frame tells her son instructions on how to clean the carpet whilst, quite aptly, relating being a woman in science with a family. Other speakers have families with them and we see in real time how they flick between parenting and work, seriousness and playfulness modes. They bring with them a relaxed and open environment, an ideal space for sharing and networking.

Here we have directors of research institutes and world-renowned group leaders eager to engage and mentor the participants. We hear about how they run their labs, how they choose new projects to dive into, what it is to fall in love with your work, knowing when to let go, and what keeps them going.”
acknowledge a research life is not the future they want, but the speakers still dedicate time to help those get the most out of the PhD experience.

The week is highly interactive, and furthermore, students are equally expected to contribute to the meeting with their own work. Each participant formally showcased their research during poster presentations and from these, sixteen selected students delivered short talks to elaborate further on their work. Joint-first prizes for excellent presentations were awarded to Ann-Marie Baker (Institute of Cancer Research, London) for her work on the role of lysyl oxidase in promoting colorectal cancer, and Anneke Post (UMC Utrecht, Utrecht) for her work on the interactions between Radil and Ezrin in Rap1A-induced cell spreading and focal adhesion formation.

It’s clear from the experience that the overall Spetses course design is focused around nurturing early researchers.

Thank you to the main organiser Hans Bos (UMC Utrecht, Utrecht) and all those who participated for providing an intense and valuable week packed with fun and an all-encompassing education.

Lindsay Lim
Institute of Cancer Research, London
During the last decade the concept of “apoptotic cell death” as a natural barrier against cancer has evolved to the widened concept of “programmed cell death” as a cancer barrier. It is now largely recognised that disruption of cell death pathways not only allows cells to deal with environmental stress during carcinogenesis but also to escape the cytotoxic action of chemotherapy, radiotherapy or immunotherapy. On the other hand, although being beneficial in limiting cancer cell proliferation, programmed cell death II (autophagy) and death by necrosis can also have tumour promoting potential. Finally, therapy-induced immunogenic death may help to eradicate residual tumour cells by cooption of the immune system.

Research on the diverse modes of programmed cell death and their dual role in tumour development and therapy response is an exciting and rapidly evolving field that has enormous impact on the development and implementation of novel therapeutic strategies.

An excellent scientific programme attracted 177 researchers from 34 countries all over the world, including 56 students. The conference provided an exciting forum for young researchers and leading scientists in the field engaged in basic, translational and clinical research to discuss key areas of current interest and the latest discoveries in the field of cell death research. The vivid discussions during the lectures and poster sessions nicely demonstrated that the format of the conference provided an excellent platform where young scientists could meet with experts in the field in an inspiring informal atmosphere to share research findings and to establish or strengthen collaborations.
As part of the novel initiative of EACR to support small focused meetings and educational courses on topics with relevance to cancer research, the inaugural EACR Conference on Cell Death in Cancer aimed to bring together researchers from different disciplines working on a variety of different aspects of cell death research as it relates to tumourigenesis, malignant progression, therapy and the exploitation of cell death pathways for therapeutic targeting.

A comprehensive programme with 16 plenary lectures, and 11 short talks selected from the submitted abstracts was put together which, however, left sufficient time for intense discussions of each talk. The scientific programme covered key areas of current interest, including autophagy, metabolism and cancer (Kevin Ryan, Glasgow, UK; Eyal Gottlieb, Glasgow, UK); immunogenic cell death (Patrizia Agostinis, Leuven, Belgium); apoptotic and non-apoptotic functions of death receptor ligands (Seamus Martin, Dublin, Ireland; Frank Kruyt, Groningen, the Netherlands; Imela Jeremias, Munich, Germany); alternative cell death pathways (Peter Vandenabeele, Gent, Belgium; Clemens Schmitt, Berlin, Germany); targeting cell death pathways in cancer (Anthony Letai, Boston, USA; Domagoj Vucic, San Francisco, USA; Simone Fulda, Frankfurt/Main, Germany; Steven De Jong, Groningen, the Netherlands; Verena Jendrossek, Essen, Germany; Jan-Paul Medema, Amsterdam, the Netherlands) and Biomarkers and micro-RNAs (Caroline Dive, Manchester, UK; Roya Khosravi-Far, Boston, USA).

Highlights of the conference include the two keynote lectures that were given by two of the most outstanding scientists in the field of cell death research.

In the first keynote lecture, Guido Kroemer (Villejuif, France) provided novel insight into immunogenic aspects of cancer cell death, which may have important future implications for the design of treatment concepts for cancer patients. The second keynote address was given by Eileen White (New Jersey, USA), who discussed her pioneering research on the role of autophagy for cancer and provided a highlight at the closure of the conference.

The programme was completed by two poster sessions covering a total of 95 posters. Of note, the informative poster sessions were very well attended and highly interactive. The generous support of EACR allowed the award of two poster prizes to young scientists. They were presented during the closing ceremony to Christian Seitz from Frankfurt/Main, Germany, and Cathrine Kolster Fog, Copenhagen, Denmark.

In summary, the present conference revealed that this type of small focused meeting that brings together young scientists and leading researchers engaged in basic, translational and clinical cancer research provides excellent opportunities for cross-disciplinary interactions and collaborations. The feedback from speakers, delegates and exhibitors was extremely positive so that we consider this event as a starting point for a series of EACR Conferences on Cell Death in Cancer that will be held on a regular basis in the future.

Acknowledgements:
We are grateful to Kathryn Wass and Rachel Warden from the EACR office for the excellent organisation of all administrative aspects of the meeting in Amsterdam and to Andrew Binns for technical support during the conference. Furthermore, we are indebted to Patrizia Agostinis, Kevin Ryan,