



The Pezcoller
Foundation

Journal



20TH ANNIVERSARY PEZCOLLER FOUNDATION - AACR AGREEMENT

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November 2017

Editorial

The year 2017, which is about to end, has been for many reasons an important one for the Pezcoller Foundation.

First of all, it marked the 20th anniversary of the Pezcoller-AACR agreement, which was signed in San Diego on April 13 1997, by the then President of The Pezcoller Foundation Pietro Monti and the then President of AACR Donald S. Coffey (front page picture). The agreement, which was signed to establish a strong partnership for the organization, management and presentation of the Pezcoller Foundation-AACR International Award for Cancer Research, has mutually benefited both institutions in terms of synergistic relationships, international visibility and prestige, through the promotion of the outstanding science recognized by the Award. Secondly, the recipient of the 2017 Pezcoller Foundation-AACR International Award for Cancer Research has been Dr. David M. Livingston of the Dana Farber Cancer Institute, Boston. We are particularly happy for this important recognition of Dr. Livingston, to whom we are indebted for his long-lasting support and friendship with the Pezcoller Foundation. Dr. Livingston has been particularly involved in the Pezcoller Symposia, together with Dr. Enrico Mihich for many years, and as chair of the Symposia Standing Committee for the past 10 years. Dr. Livingston gave his Pezcoller-AACR award Lecture on April 2, 2017 during the AACR Annual Meeting in Washington DC, while the actual prize was conferred to him on May 5, in Trento, in the wonderful main hall of the historical Castle of Buonconsiglio, in the presence of civil and military authorities and of a large audience.

Thirdly, two important agreements have been signed by the Pezcoller Foundation and the Universities of Padova and of Trento respectively, for two lectures given by the Award winner, on the occasion of his/her visit to Italy to receive the prize.

Dr. David Livingston was the first to give these lectures in Padova and in Trento, on May 4 and 5 respectively, in the presence of many researchers and students. A summary of these lectures has been kindly provided by Dr. Livingston to be published in this issue.

Fourthly, we have decided to permanently call the introductory Symposia lecture: "The Enrico Mihich Lecture", starting this year for all forthcoming Symposia, to remember and honor this great friend of the Foundation, who passed away last December 2016. The lecture was given by Robert Weinberg, recipient of the 2012 Pezcoller-AACR Award, at the opening of the 29th Pezcoller Symposium on June 22. Enrico's family attended the lecture and the Pezcoller Foundation presented the widow, Mrs. Marisa Mihich, with a memorial plaque.

Finally, the collaboration of the Pezcoller Foundation with the European Association for Cancer Research (EACR) was reinforced and formalized in a Memorandum of Understanding, to renew the framework for the Pezcoller Foundation-EACR Cancer Researcher Award to European young investigators.

In relation to the Pezcoller Symposia, the 29th Pezcoller Symposium was successfully held in Trento on June 22 and 23, with the largest attendance and poster presentation ever. The Symposium is described in the following pages.

As far as the 2018 Pezcoller Symposium is concerned, as it is going to be the 30th edition, we would like to celebrate it with a renewed format and a special resonance. It will be held in Trento on June 25-26. The title will be: "Overcoming the Innate Resistance of Cancer to Therapy". The agenda is mostly finalized and reported in the following pages.

Gios Bernardi
Editor

Picture on front page is the Pezcoller Foundation - AACR Agreement, signed in S. Diego April 13, 1997. From left to right: Gios Bernardi President Emeritus Pezcoller Foundation, Giorgio Pederzoli past Secretary Pezcoller Foundation, Pietro Monti, President Pezcoller Foundation, Donald S. Coffey, President AACR, Margaret Foti, CEO AACR, Enrico Mihich, past President AACR.

Pezcoller Foundation – AACR International Award for Cancer Research lecture

Universities of Padova and Trento, May 4, 5, 2017



Dr. Livingston's Lecture at the Dept. Molecular Medicine, Complesso Vallisneri, University of Padova, May 4, 2017

BRCA1 is a tumor suppressor gene that, when inherited in a mutant form, very often leads to breast and/or ovarian cancer development. BRCA1 encodes at least three proteins, one of which, p220, is responsible for breast cancer protection. While p220 executes at least 14 different biological or biochemical functions, how it delivers a state of protection from breast cancer development is largely a mystery.

One well-studied p220 function is to repair certain forms of genome damage. One feature of this function is an ability to repair genome damage that arises when DNA replication is stalled or blocked. One abnormal outcome of this process, i.e. replication stress is characterized, in part, by the existence of collapsed replication forks and the development of chromatid breaks. Ongoing replication stress can be associated with aneuploidy, and there is a well-known correlation between aneuploidy and tumorigenesis.

In my laboratory a team of young scientists have been working on how defective p220 DNA repair function gives rise to replication stress in mammary epithelial cells. One member of this group, Dr. Hua Wang,

made a surprising observation in the course of his work. He found that merely inducing replication arrest with chemical agents (like cis-platin) that cause inter-strand DNA cross-linking (ICL) not only triggers replication and transcription arrest, it also, surprisingly, leads to the development of an aberrant state of differentiation of what were, otherwise, normally differentiated, diploid human mammary epithelial progenitor cells (Wang et al, 2016).

Surprisingly, Dr Wang's efforts also showed that defective p220 function triggers the same outcomes as does un- or incompletely repaired ICL. Thus, p220, a known participant in ICL repair, employs this function in non-BRCA1 mutant cells to sustain normal mammary epithelial differentiation. This finding further suggests that proper p220 ICL DNA repair function is linked to a newly detected human mammary differentiation maintenance function.

Dr. Wang also showed that failed mammary epithelial cell differentiation can be reproducibly generated by interfering not only with p220 function, but also with the operations of other members of an ICL DNA damage and cell differentiation control

pathway (Fanconi-Swi/snf-p63) [Park et al, 2013; Wang et al, 2016]. In keeping with this finding, his results also suggest that some members of this pathway physically interact with p220, or, in the case of p63, its presence is dependent upon intact p220 DNA repair function (Fomenkov et al, 2004; Westfall et al, 2005; Buckley et al, 2011).

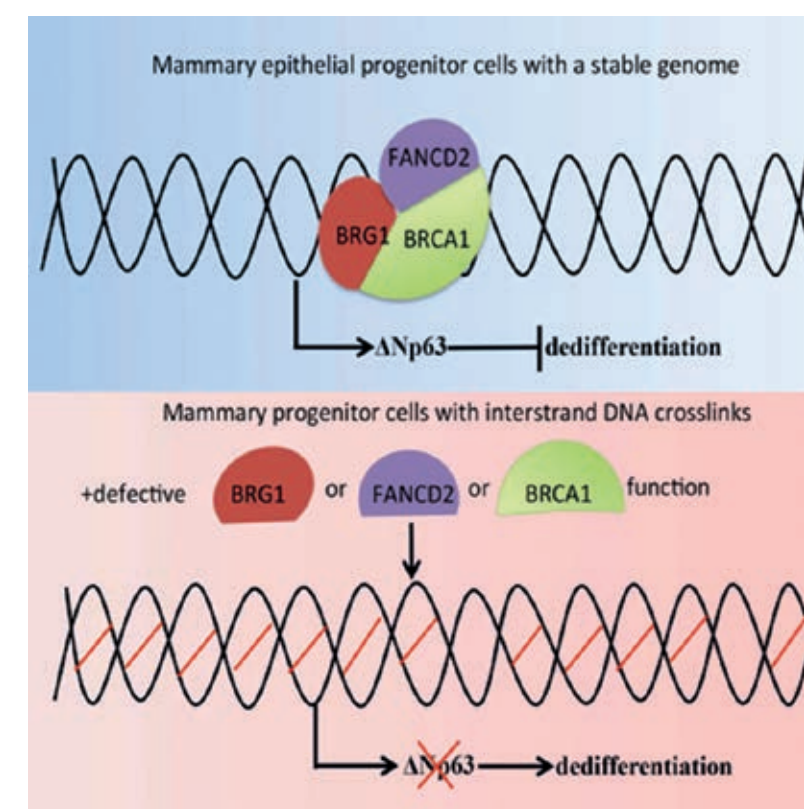
We have also unearthed clinical breast cancer data base information that, in combination with our own experimental results, imply that, when members of this pathway fail to communicate normally with unmutated p220 or with one another, breast cancer development is enhanced.

Thus, we propose that defective operation of a complex DNA repair and mammary differentiation mechanism triggered by both inherited or, possibly, also somatic BRCA1 mutations leads to breast cancer development (Wang et al, 2016). Other reports have also linked DNA damage and defective operation of certain Fanconi proteins, Swi/snf subunits, and/or p63 to aberrant differentiation in non-mammary settings (Eroglu et al, 2014; Park et al, 2013; Santos et al, 2014).

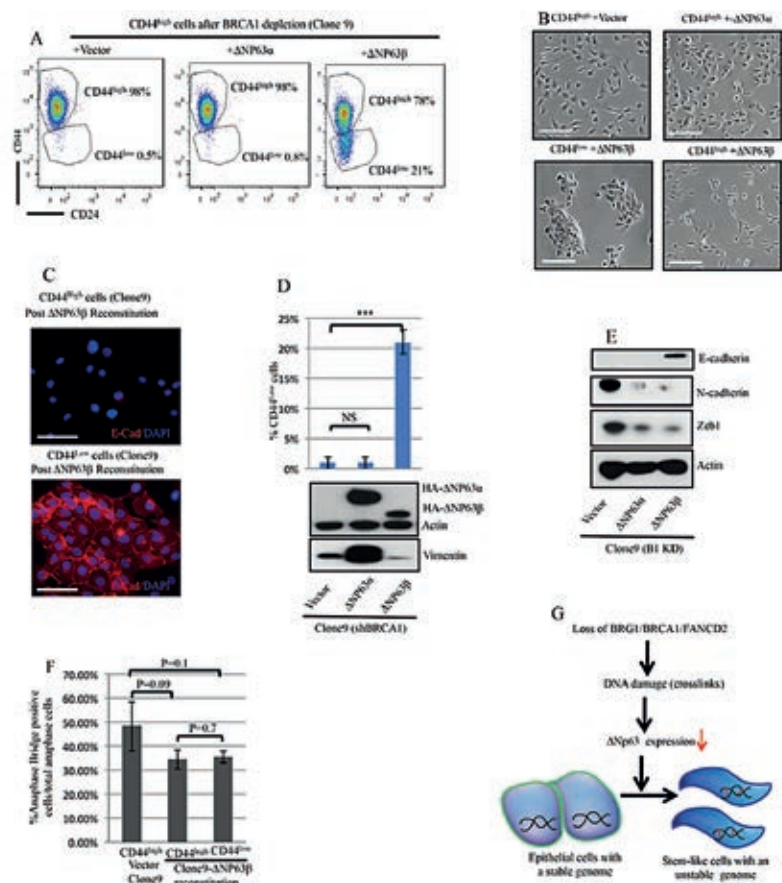


Dr. Livingston's Lecture

Graphical Abstract



a breakdown in a BRCA/FA--mSWI/SNF-ΔNP63- mediated DNA repair and differentiation maintenance process in mammary epithelial cells that may contribute to sporadic breast cancer development.



ΔNP63B expression promotes differentiation of BRCA1-deficient CD44^{high} HME cells

A model of the mechanism underlying BRCA1/BRG1/FANCD2 dependent differentiation maintenance in HME cells in response to DNA damage. The short red bars represent interstrand DNA cross links

Copyright References: Licence no. 4196521235305 , Sept. 26,2017, Elsevier , Molecular Cell

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29th Pezcoller Symposium

“Building New Bridges Between Basic and Cancer Science”

The Symposium was opened with a memory of Enrico Mihich and the awarding of a recognition plaque to his widow.

The topic of the symposium was very provocative and of great interest. It was co-chaired by Alberto Bardelli, David Livingston, Massimo Loda, Stefano Piccolo and was divided into three sessions: The Roots of Cancer, Frontiers of Immunological and Therapeutics Science and Next Generation Questions. All the sessions were presented and discussed by highly qualified speakers. The symposium was actively attended by 123 young Italian and European researchers with the presentation of 23 posters. The Program Committee chose the three Best Posters that won the Begnudelli Fel-

lowships. A summary of the Symposium and Abstracts of the posters are reported below. Few days before the Symposium, Dr. Pier Paolo Pandolfi, Director of the Cancer Center and of the Cancer Research Institute at Beth Israel Deaconess Medical Center of Boston, recipient of the 2011 Pezcoller Award and member of the Standing Committee of the Symposium itself, gave two lectures: one on June 20 for the researchers of the Centre for Integrative Biology of the University of Trento (CIBIO) and one on June 21 for doctors of the Santa Chiara City Hospital.



President Galligioni awarding the plaque to Mrs. Marisa Mihich, Trento, June 22, 2017

29th Pezcoller Symposium “Building New Bridges Between Basic and Cancer Science”

Summary by Massimo Loda

Professor of Pathology, Harvard Medical School, Boston, MA

Enrico Mihich, who recently passed away, was remembered for his invaluable contributions over the years to the Pezcoller foundation. He was the architect of an important agreement between the foundation and the American Association for Cancer Research. For a number of years he has been a member of the standing committee, an organizer of the scientific meetings and an important force behind the scientific excellence of these meetings.

The symposium this year, held in June 2017 and entitled “Building new bridges between basic and cancer science” focused on new observations in basic science that would have an impact in clinical research in the immediate future. Specifically, the meeting focused on the coming-of-age of the most important recent discoveries in cancer science, new targeted agents as well as immunologically directed therapies.

Dr. Robert Weinberg opened the meeting describing his amazing discoveries focused in particular on the now established concept of epithelial-to-mesenchymal transition and on the role of cancer stem cells in tumorigenesis. He described these concepts and the cellular and molecular mechanisms they utilize to enhance the metastatic process tumors. Targeting the metastatic phenotype is arguably the single most important aspect in decreasing mortality in patients diagnosed with advanced malignancies, so these discoveries have had and continue to have translational impact. Importantly, the point was made that epigenetic programs are at play in addition to driving genetic events and need to be taken into account when evaluating the response of tumor cells to recently developed targeted therapies.

On the theme of cancer stem cells, Dr. Pelicci showed that in leukemias and breast cancers, renewing divisions in cancer stem cells were more frequent than their normal counterparts. This was at least in part due to mutations in the p53 gene. Targeting cancer stem cells will need to take into account the epigenetic reprogramming that occurs in these cells as well as the disruption of the p53/p21 axis. In fact, Dr. Lahav, who studies the dynamics of p53 in response to radiation and chemotherapy in individual cells, showed that this knowledge can help optimize the schedule of combination therapy to increase treatment efficacy. The accurate identification of populations of stem and non-stem cells in multiple mouse organs was compared by Dr. Gilbertson to a life-long susceptibility to tumorigenesis. His group has shown that tumor incidence is determined by the life-long generative capacity of mutated cells. Thus, the combination of stem cell mutagenesis and extrinsic factors that enhance the proliferation of these cell populations, is ultimately responsible for cancer risk in any given organ.

Dr. Gerard Evan described an approach in which targeting molecular nodes that are critical to many important yet redundant pathways would be advantageous with respect to preventing escape from targeted therapy. Some of these important targets include ras, E2F and p53 but also Myc. An unexpected role for the latter in the modulation of the innate and adaptive tumor immunity suggests a way forward in coupling immune blockade inhibition with inhibitors of Myc. Interestingly, using in silico approaches, Dr. Califano developed network-based methods for the systematic

identification of many of these master regulator proteins, whose concerted aberrant activity is both necessary and sufficient for tumor maintenance and progression. He showed data on successfully utilizing bioinformatics approaches to identify and target these nodes in glioblastoma, prostate and breast cancer. Response to therapy can be predicted using large-scale drug perturbation strategies. Utilizing a different approach but with a similar objective, Dr. Aebersold developed mass spectrometric and computational methods for the reproducible quantification of the proteome and the systematic analysis of the connectivity of proteins in modules.

Another area of intense interest in tumor biology and therapeutics is the DNA damage response. Fabrizio D’Adda di Fagagna described how oligonucleotides designed against non-coding RNAs generated at the DNA damaged loci inhibited the DNA damage response both in vitro and in vivo, paving the way for novel therapeutic strategies targeting this pathway. A novel link between DNA damage and metabolism was discovered by Dr. Thomä, credentialing approaches that co-target the DNA damage response and metabolism.

In pancreatic cancer, Dr. Giulio Draetta showed that combined chemotherapy and radiation regimens resulted in induction of mitochondrial dependency by tumor cells. This discovery can be exploited by targeting these tumors with inhibitors of oxidative phosphorylation. Heterogeneity is also of great importance in this disease. The identification by his group of subsets of tumor cells that lost ras dependency, or of phenotypically different cells in terms of their differentiation, as Dr. Natoli demonstrated in this disease, suggest the need for accurate molecular characterization of subpopulations of tumor cells and development of co-targeting strategies in heterogeneous neoplasms such as pancreatic cancers.

Phenotypic and molecular characterization of heterogeneous populations of tumor cells within a tumor and the assessment of the microenvironment they live in, is essential for the understanding of the tumor ecosystem and ultimately in choosing the best and most effective therapeutic regimen. To this end, novel and exciting technologies were

presented by Drs. Grey and Nolan for the simultaneous identification and characterization of multiple cell types as well as their molecular subtypes. These approaches represent the next generation imaging approaches that are poised to revolutionize the field of pathology. Going beyond the genotype and phenotype of both the tumor and its microenvironment, mechanic forces in the stroma need to be taken into account as these can affect significantly signal transduction and cellular behavior of tumor cells, as Dr. Weaver explained.

The traditional approach to the design of clinical trial was challenged by Dr. Parmigiani. New adaptive trial approaches focusing on Bayesian methodologies provide increased flexibility in trial design by adding and dropping arms dynamically, as information is acquired in real time in multiple sites.

Clearly a major focus of therapy is achieved via the modulation of the immune anti-tumor response. Dendritic cells are required to initiate and sustain T cell-dependent anti-cancer immunity. Dr. Glimcher showed that tumors evade immune control by crippling the unfolded protein or endoplasmic reticulum stress response in dendritic cells. Because tumor cells utilize these mechanisms to survive, inhibiting these stress response pathways may result simultaneously in both inhibition of tumor cell growth and enhanced anti-tumor immunity. Dr. Schreiber, utilizing a combination of exome sequencing and epitope prediction algorithms, showed that immunoselection is a major mechanism underlying the immunoeediting process. Interestingly, the identification of immunodominant neoantigens and their use in vaccination, lead to tumor rejection in pre-clinical murine models. Importantly, these tumors remained susceptible to checkpoint inhibition and displayed enhanced T-cell response to these tumors with “fixed” neoantigen expression. Dr. Rescigno discussed how bacterial strains within the gut may also promote accumulation of suppressive immune cells within the tumor as well as drive cell proliferation and genotoxic stress.

Dr. Treisman elaborated on the Serum Response Factor (SRF) network, a group of

transcriptional regulators central to the response to extracellular signals.

Using ChIPseq and RNAseq and pathway-specific inhibitors he described a functional hierarchy between transcription factor activity, chromatin modifications and transcription.

Dr. Livingston, the driving force behind this

meeting, closed with remarks describing yet another outstanding scientific retreat focused on major topics emerging from some of the best basic science laboratories in the world. He emphasized that the translational potential that such discoveries will likely have in the immediate future, will help improve cancer prevention, diagnosis and treatment.



President Galligioni's welcome at the 29th Pezcoller Symposium, Trento June 22, 2017

The three Best Posters awarded by the Begnudelli fellowships at the 29th Pezcoller Symposium.

Exploring prostate tissue homeostasis and tumorigenesis with 3D organoids

Francesco Cambuli, Veronica Foletto, Michela Zaffagni, Maria Dilia Palumbieri, Sacha Genovesi and Andrea Lunardi¹

¹The Armenise-Harvard Laboratory of Cancer Biology & Genetics, CIBIO, University of Trento, Italy

Prostate cancer (PCa) is one of the most frequent forms of cancer in men, characterized by high clinical and genetic heterogeneity. Many uncertainties remain about the choice of treatment and, crucially, the metastatic disease is still incurable. Despite intense efforts, PCa research has been hampered by a limited understanding of prostate homeostasis and by long-standing problems in establishing accurate experimental models of healthy and transformed epithelium. Currently, 2D cell cultures and animal models poorly recapitulate key PCa features, including progressive epithelial transformation, heterogeneity and (poly) clonal origin.

In the last decade, 3D organoid cultures have been developed for many tissues, enabling a rapid expansion of more reliable and physiological *in vitro* models. Prostate organoids, however, still present some limitations and do not faithfully recapitulate their tissue of origin. Indeed, they are predominantly made up of cycling progenitor cells, whereas the adult prostate epithelium is largely quiescent and enriched with luminal cells with intense secretory activity. Strikingly, the efficiency of PCa organoid derivation (<20%) is reported to be the lowest across human carcinomas.

For these reasons, we have begun to explore how soluble factors supplied to the medium affect signalling pathways that mainly contribute to the survival, proliferation and differentiation of prostate organoids. In particular, the role of Wnt and TGF β signalling pathways is under investigation. Moreover, we present our progresses in the

genetic engineering of organoids in order to model two genetic alterations, *PTEN* loss and *TMPRSS2:ERG* fusion, found at high frequency in PCa patients. *In vitro* phenotyping - including extracellular vesicle profiling - and *in vivo* modelling - via orthotopic transplantation - will be employed to model and understand the variety of mechanisms underlying the progressive transformation of prostate epithelium into aggressive cancer types.

mTORC1 Drives TCA Cycle Alterations and Accumulation of the Oncometabolite Fumarate in Renal Cell Carcinoma

Luca Drusian^{1,2}, Valeria Mannella³, Roberto Paglierini¹, Monika Pema¹, Sofia Henriques da Costa⁴, Fabio Benigni⁵, Alessandro Larcher⁶, Marco Chiaravalli¹, Edoardo Gaude⁴, Francesco Montorsi^{5,6}, Umberto Capitanio^{5,6}, Giovanna Musco¹, Christian Frezza⁴, Alessandra Boletta^{1,*}

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Renal Cell Carcinomas (RCCs) are common cancers diagnosed in more than 350,000 people worldwide each year. Several pathways are found de-regulated including the mTORC1 cascade and profound metabolic alterations. Investigation over the years and identification/testing of novel potential therapies has been limited by the lack of faithful animal models. Here we inter-

crossed mice harboring a *Tsc1* floxed allele with a Kidney-specific Cre mouse line (Ksp-Cre). The animals are born with normal kidneys and slowly develop renal cysts which gradually undergo transformation with formation of papillae, cystadenomas and papillary type II carcinomas within the first three months of life. The phenotype is fully penetrant and highly reproducible. Upregulation of mTORC1 is observed in all stages, as expected. Global metabolomic profiling of these kidneys at P20, P50 and P80 revealed the presence of alterations in metabolic pathways previously ascribed to mTORC1 de-regulation such as glycolysis, the pentose phosphate pathway, pyrimidine and fatty acids biosynthesis and glutamine anaplerosis. Notably, we also observed defective TCA cycle regulation paralleled by a marked accumulation of the oncometabolite fumarate. Cell lines lacking or downregulated for *Tsc1* confirmed that mTORC1 directly regulates the expression levels of fumarate hydratase and accumulation of fumarate. Interestingly, renal biopsies of clear cell RCC with mTORC1 pathway upregulation display reduced expression of *Fh* enzyme. Thus, our mouse model recapitulates key features of renal carcinogenesis and unveils accumulation of the oncometabolite fumarate in response to mTORC1 upregulation as an essential player in disease progression.

Targeting 'trunk' pathway mutations overrides secondary resistance to targeted therapies in colorectal cancers



Mariangela Russo^{1,2}, Simona Lamba¹, Alberto Sogari², Annalisa Lorenzato², Giorgio Corti¹, Giuseppe Rospo¹, Monica Montone¹, Federica DiNicolantonio^{1,2}, and Alberto Bardelli^{1,2,3}

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Human tumours, including colorectal cancers (CRC), develop through a branched rather than a linear pattern of evolution. Molecular alterations that occur early are present

in every subclone (trunk mutations); on the contrary, different geographically separated regions of the tumour (subclones) carry heterogeneous mutations (branched mutations). Targeted therapies exert a strong selective pressure allowing pre-existing low frequency mutated subclones to expand and heterogeneously repopulate the neoplastic lesion, leading to treatment failure. We used CRC as a model system to test the hypothesis that genetic or pharmacological modulation of trunk oncogenic events may overcome the heterogeneous mechanisms of secondary resistance to targeted therapies. To test our assumption, we first generated CRC cells resistant to commonly used targeted agents including EGFR and BRAF inhibitors. We also exploited patient-derived CRC cell models obtained from individuals that responded and then relapsed to EGFR or BRAF blockade. Alterations in the Wnt pathway occur very early during CRC progression, are shared by all tumour cells when the disease spreads to distant organs, representing therefore the truncal CRC oncogenic event. We found that functional restoration of wildtype (WT) WNT signaling in CRC cells carrying defective APC alleles, inhibits proliferation and leads to rapid cell death regardless of the heterogeneity of resistance mechanisms. Analogously, restoration of WT APC impairs formation and growth of CRC patient-derived organoids, leading to caspase activation. On the other hand, we show that in CRC cells in which APC is functional but the APC-WNT pathway is constitutively active due to RSP03 translocations or ZNRF3 mutations, pharmacological inhibition of WNT signaling is likewise effective at intercepting heterogeneous resistance mechanisms both in vitro and in vivo. Down-regulation of β -catenin activity, through porcupine inhibitor LGK974, is sufficient and necessary to counteract/bypass constant hyperactivation of prosurvival MAPK pathway effectors, responsible of the inefficacy of targeted agents. Importantly, combination of targeted therapies and WNT pathway inhibitor LGK974 delay the development and outgrowth of heterogeneous resistant clones. In summary we show that in colorectal cancers, dependency from trunk oncogenic mutations is maintained in branched sub-clones that develop divergent mechanisms of resistance, therefore representing a promising clinical opportunity upon secondary resistance to targeted agents.

Pandolfi's lecture at the Centre for Integrative Biology (CIBIO) of the University of Trento

 UNIVERSITÀ DEGLI STUDI DI TRENTO
  CIBIO
Centre for Integrative Biology

Pier Paolo Pandolfi

Beth Israel Deaconess Cancer Center & Harvard Medical School,
Cancer Research Institute, Boston (MA), USA



SEMINAR

June, 20th
3.00 p.m Room B107

Povo 2
via Sommarive, 9
Povo, Trento

The Non-Coding RNA Revolution in Biomedical Research and Ultraprecision Medicine

Dr. Pandolfi holds the Reisman Endowed Chair of Medicine and is Professor of Pathology at Harvard Medical School. Pier He currently serves as the Director of the Cancer Center at Beth Israel Deaconess Medical Center and the Cancer Research Institute, Harvard Medical School, in Boston. The research carried out in Dr. Pandolfi's laboratory has been seminal at elucidating the molecular mechanisms and the genetics underlying the pathogenesis of leukemias, lymphomas and solid tumors as well as in modeling these cancers in the mouse. Dr. Pandolfi and colleagues have characterized the function of the fusion oncoproteins and the genes involved in the chromosomal translocations of acute promyelocytic leukemia (APL), as well as of major tumor suppressors such PTEN and p53 and novel genetic players such LRF/Pokemon. The elucidation of the molecular basis underlying APL pathogenesis has led to the development of novel and effective therapeutic strategies. His work has been recently focused on the non-coding space and in particular on the activity of a new class of RNAs – competitive endogenous RNAs (ceRNAs), lncRNAs and circRNAs – which forms a large-scale regulatory network across the transcriptome, greatly expanding the functional genetic information in the human genome and playing important roles in pathological conditions, such as cancer

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Pandolfi's lecture for doctors of the Santa Chiara Hospital of Trento

Fondazione Pezcoller, Trento Associazione Nazionale Primari Ospedalieri (ANPO)
Ordine dei Medici della Provincia di Trento



I MEDICI TARENTINI INCONTRANO:
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HARVARD MEDICAL SCHOOL
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La Rivoluzione Biomedica e la Medicina della Ultraprecisione
Pier Paolo Pandolfi MD, PhD
Cancer Center and Cancer Research Institute
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MERCOLEDÌ 21 GIUGNO 2017 ORE 15.30
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Primari Ospedalieri



Ordine dei Medici Chirurghi
e degli Odontoiatri
della provincia di Trento

30th Pezcoller Symposium

Overcoming the Innate Resistance of Cancer to Therapy

Trento, Italy, June 25-26, 2018

The Pezcoller Foundation strongly believes in these Symposia and is determined to continue this long series with the same standard of scientific excellence and wide interaction between scientists and researchers. The next one will be the 30th of a long and uninterrupted series and we are trying to celebrate it in a special way, to make this symposium more relevant than ever to the scientific community. It will be held in Trento, Italy on June 25-26, 2018 and will be focused on "OVERCOMING THE INNATE RESISTANCE OF CANCER TO THERAPY" particularly of some bad tumors or those resistant to common or innovative therapies.

The program has been already defined by the Co-Organizers: (Alberto Bardelli, David Livingston, Massimo Loda, Pier Paolo Pandolfi, Stefano Piccolo), who have been able to involve top scientists working in specific fields. (See below). For all disease-oriented topics, the two speakers' talks will be followed, as in the past, by an extended discussion. There will be an expert clinical investigator who is working on the disease and who will moderate and lead the discussion. Most importantly, such expert will artfully engage the audience in the discussion.

Last but not least, Dr. Harold Varmus (Nobel laureate and one of most esteemed scientists both in the world and in the cancer field) has agreed to be the keynote speaker for the 2018 Symposium Enrico Mihich lecture.

Focus and Goals:

Currently, oncologists and cancer scientists face an abiding problem of major proportion, namely the emergence of resistance of certain cancers - some very common - to any therapy during their course. For some of these tumors, such as melanoma and kidney cancer, immune therapy has shown remarkable effects, but only a small fraction of patients undergo extended therapeutic responses. For prostate cancer patients whose tumors develop anti-androgen therapy resistance, further therapy has largely failed. And for cancers like glioblastoma, pancreatic cancer, mesothelioma, small cell lung cancer and chemotherapy and marrow transplant-resistant acute myelogenous leukemia, a pathway to therapeutic success is not yet apparent. The thrust of this meeting will be to explore the molecular and biological sources of historical therapeutic resistance in these cancers and to assess the most promising opportunities for overcoming it. (David Livingston)

30th Pezcoller SymposiumOVERCOMING THE INNATE RESISTANCE
OF CANCER TO THERAPY

Trento, Italy, June 25-26, 2018

Co-Organizers: Alberto Bardelli, David Livingston, Massimo Loda, Pier Paolo Pandolfi, Stefano Piccolo

PRELIMINARY PROGRAM

MONDAY, JUNE 25, 2018

Enzo Galligioni - Welcome
David Livingston - Focus & Goals
Harold Varmus - The Enrico Mihich Lecture
Discussion

Session 1, Pancreas Cancer

Chairman: Alberto Bardelli

David Tuveson
Christine Iacobuzio-Donahue
Discussion

Session 2, Prostate Cancer

Chairman: Pier Paolo Pandolfi

Charles Sawyers
Massimo Loda
Discussion

Session 3, Leukemias

Chairman: Alberto Bardelli

A.Falini – E.Tiacci
Pier Paolo Pandolfi
Discussion
Poster Session

TUESDAY, JUNE 26, 2018

Session 4,
Therapeutically resistant Melanoma

Chairman: Stefano Piccolo

David Fisher
Ugur Sahin
Discussion

Session 5, Glioblastoma

Chairman: Stefano Piccolo

Peter Dirks
Ingo Mellinghoff
Discussion

Session 6, Kidney Cancer

Chairman: Massimo Loda

William Kaelin
John Josey
Discussion

Session 7, Mesothelioma and Small Cell
Lung Cancer

Chairman: Alberto Bardelli

Anton Berns
John Poirier
Discussion

Poster Discussion and Poster Presentation
(led by Dr. Loda)

David Livingston
Concluding Remarks

The Pezcoller Foundation – EACR
Cancer Researcher Award

Celebrating academic excellence and achievements
in the field of cancer research

Since 2012, the Pezcoller Foundation and the European Association for Cancer Research EACR, have been collaborating in the organisation of the **biennial Pezcoller Foundation-EACR Cancer Researcher Award**, intended for cancer researchers who have demonstrated academic excellence and achievements in the field of cancer research and who have no more than 15 years post-doctoral experience (or equivalent degree) and are currently employed in a European institution.

Both organisations are committed to the continuation of the award and this is the reason why the President of the Pezcoller Foundation Enzo Galligioni met the president-elect of EACR Alberto Bardelli and the EACR Chief Operating Officer Jane Smith last April in Washington DC, to formally set out the criteria for the award and establish the organisational and administrative responsibilities of each organisation. The Memorandum of Understanding was signed on August 22, and will become effective with the call for nomination for the 2018 award (see below).

About the Award and
the Award Lecture

The Pezcoller Foundation - EACR Cancer Researcher Award celebrates academic excellence and achievements in the field of cancer research. The award is presented biennially to a researcher of excellence with no more than 15 years post-doctoral experience (or equivalent degree), with at least five years spent in Europe.

The winner gives the prestigious Pezcoller Foundation - EACR Cancer Researcher Award Lecture at the Biennial EACR Congress. The next award will be presented at the EACR25 Congress to be held from 30 June to 03 July 2018 in Amsterdam, Netherlands. The award winner will receive a €10,000 honorarium, a free registration for the EACR Congress, plus accommodation and travel costs as an invited speaker.

Call for Nominations

We invite you to nominate a cancer researcher who has demonstrated academic excellence and achievements in the field of cancer research. Self-nominations cannot be accepted.

The nominee should:

- Have no more than 15 years post-doctoral experience (or equivalent degree)
- Presently be employed in a European institution
- Have a record of employment in Europe of at least five years

Documents to send:

- Completed Nomination Form (see next page)
- A one page letter of support giving the reasons for the nomination
- A concise curriculum vitae from the nominee
- Details of the nominee's relevant publications

How to submit your nomination:

Please email your completed nomination form and accompanying documents to Laura Strachan at the EACR Secretariat (l.strachan@nottingham.ac.uk) by 03 January 2018.

Deadline for receipt of nominations: 03 January 2018

The Pezcoller Foundation – EACR Cancer Researcher Award

Nomination Form

Name of Proposer:

Work address:

Phone:

Email:

Please sign to confirm that you have the agreement of the nominee to be nominated and that, if successful, the nominee agrees to give the Award Lecture at EACR25 in Amsterdam on Tuesday 03 July 2018.

Signature

Name of Award Nominee:

Work address:

Phone:

Email:

Date Doctorate Awarded:

Guidance for Letter of Support giving the reasons for the Nomination

We ask you as the Proposer to provide a Letter of Support to inform the Evaluation Committee why the Nominee should be awarded the Pezcoller Foundation - EACR Cancer Researcher Award.

In your Letter of Support, please explain using the following headings why you are recommending the Nominee. You can include additional points if relevant.

Maximum of 1 page in total.

1. What have been the most noteworthy achievements of the Nominee in the field of cancer research?
2. How has the Nominee's research contributed to the ultimate goal of preventing loss of life to cancer?
3. What research is the Nominee currently undertaking and what is its significance?

2018 Scholar-In-Training Awards



2017 Scholar-In-Training Awardees with President Galligioni in Washington DC, April 1, 2017

SCHOLAR-IN-TRAINING AWARDS

The AACR is proud to offer Scholar-in-Training Awards to enable the participation of meritorious early-career scientists at the Annual Meeting 2017. Since its inception in 1986, the AACR Annual Meeting Scholar-in-Training Award program has provided more than 4,400 grants to young investigators and has received support from more than 50 cancer research foundations, corporations, individuals and other organizations dedicated to the fight against cancer. This year, fourteen organizations or individuals generously provided the funding to support this program. To commemorate the AACR's 110th Anniversary, this funding recognizes **110 Scholar-in-Training Awardees**.

2018 AACR-Pezcoller Foundation Scholar-in-Training Awards

The Pezcoller Foundation supports these awards to enhance participation in the programs and activities of the AACR by **early-career investigators residing in Europe** and to provide these outstanding Scholar-in-Training Awardees with an opportunity to share their research findings with the international cancer research community at the AACR Annual Meeting.

Applications deadline is December 7, 2017.

The requirements and how to apply are at the following webpage:

http://www.aacr.org/Meetings/Pages/Travel%20Grants/scholar-in-training-awards-annual-meeting___36A82A.aspx#.Wdlx0FRSzlV

Selections are made by the criteria from Pezcoller (i.e. European scientists with **at least one awardee representing Italy**) and based on the meritorious score of the submitted abstract and application.

Any questions can be directed to sita@aacr.org



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