



ASSOCIAZIONE ITALIANA DI
CULTURE CELLULARI
Associazione di Promozione Sociale
(APS)



**November 22th - 24th 2021, Turin
Hybrid meeting**

**Dissecting metabolic circuitries in cancer
cells and microenvironment: how to learn
from bad lessons to develop new
therapeutic opportunities**

**33rd AICC ANNUAL CONFERENCE:
INTERNATIONAL MEETING ON CANCER METABOLISM**

CONFERENCE AIMS

The tumor cell and its microenvironment, including the stroma, the vascular component and the immune infiltrate, are linked by multiple cross talks that allow the adaptation of the cancer cells to unfavorable conditions, such as hypoxia, nutrient deprivation, cytotoxicity induced by radiotherapy and chemotherapy, host's immune system recognition.

In this meeting, internationally recognized speakers will discuss the complexity of the metabolic changes that occur during tumor transformation, progression, and acquisition of resistance to therapy. The metabolic circuits established between the tumor cell and the microenvironment, leading to the selection of more aggressive and resistant clones, will be dissected and analyzed, with the final goal to identify new predictive and prognostic biomarkers for patient's stratification and new therapeutic targets.

Recently, genomics, transcriptomics and proteomics have significantly improved the diagnostic accuracy and the therapeutic approach to the oncological patients, increasingly leading to personalized diagnoses and treatments. The metabolomics is an indispensable complement to the other "omic" techniques, if integrated with single-cell imaging, flow-cytometry or molecular-biology-based assays, currently used at preclinical and clinical levels.

In the era of high-throughput techniques at the service of biomedical research and precision medicine, great importance will be given to the most innovative technologies that allow the metabolic mapping of each cancer and/or the generation of in vitro metabolic "avatars" of the individual patient, to make the stratification procedure and the efficacy of therapeutic treatment more and more accurate. The most relevant brands in the field will be present at the meeting, illustrating the latest innovations in a dedicated technical session.

We believe that the meeting will be highly attractive for a broad spectrum of scientists, working in basic and translational research, as well as in clinic units. Besides the presence of world-class speakers, the AICC meeting continues its long tradition of involving young researchers, dedicating slots for oral communications and posters. The best works presented by young scientists will be awarded by special prizes.

Looking for meeting you,

Prof. Michele Caraglia
AICC President



Prof. Chiara Riganti
AICC Board member
Meeting Organizer



12.30 am - 2:00 pm: **Registration**

2:00 - 2:20 pm: **Opening and Greetings**

- **Prof. Michele Caraglia** (Università della Campania “Luigi Vanvitelli”, IT), AICC President
- **Prof. Chiara Riganti** (Università degli Studi di Torino, IT), meeting President

Greeting from University of Torino Faculty members

- **Prof. Federico Bussolino**, Director of the Department of Oncology
- **Prof. Fiorella Altruda**, Director of the Interdepartmental Molecular Biotechnology Center
- **Prof. Paola Cappello**, PhD program in Molecular Medicine
- **Proff. Emilio Hirsch/Paolo E. Porporato**, PhD program in Biomedical Sciences and Oncology

Opening lecture (Chairs: Paolo E. Porporato, Michele Caraglia)

2.20-3.00 pm: **Alexander von Humboldt Professorship 2021 Awardee Lecture**
Fumarate hydratase loss as a paradigm of oncometabolism.

Christian Frezza, MRC Cancer Unit, University of Cambridge, UK & CECAD, and University of Cologne, Germany

SESSION I: I – Emerging metabolic pathways in cancer initiation and progression (I) (Chairs: Paolo E. Porporato, Michele Caraglia)

3.00-3.40 pm: **Harnessing tumor metabolism to overcome immunosuppression**
Massimiliano Mazzone, VIB – KULeuven Center for Cancer Biology, Belgium

3.40-4.00 pm: **Hexosamine Pathway inhibition: one molecule hitting more than one target as promising cancer therapy.** **Ferdinando Chiaradonna**, Department of Biotechnology and Biosciences, University of Milano Bicocca, Milano, Italy

4.00-4.30 pm: **coffee break, poster view and networking**

SESSION I: Emerging metabolic pathways in cancer initiation and progression (II) (Chairs: *Maria Teresa Di Martino, Massimo Donadelli*)

4.30-4.50 pm: **Targeting NAD(P) biosynthetic enzymes in cancer cells.** **Nadia Raffaelli**, Polytechnic University of Marche, Ancona, Italy

4.50-5.10 pm: **Multistep reprogramming of myeloid cells in cancer.** **Antonio Sica**, University of Eastern Piedmont "A. Avogadro", Novara, Italy, and Humanitas Clinical and Research Center – IRCCS, Rozzano, Italy

5:10-5.30 pm: **Targeting NF- κ B/CES1 axis to block colorectal cancer cell metabolic adaptation.** **Daria Capece**, Department of Biotechnological and Applied Clinical Sciences, University of L'Aquila, Italy

5.30-5.40 pm: **Agilent Cell Analysis.** **Emma Nora Di Capua**, Agilent

5.40-5.50 pm: **Metabolic determinants of therapy resistance in breast cancer.** **Andrea Morandi**, University of Firenze, Italy

5.50-6.00 pm: **Kynurenine importation by SLC7A11 propagates anti-ferroptotic signalling.** **Alessandra Fiore**, Max Planck Institute, Martinsried, Germany

6.00-6.10 pm: **Inhibition of heme export and/or heme synthesis potentiates metformin anti-proliferative effect on colorectal, pancreatic and lung cancer cell lines.** **Anna Lucia Allocco**, University of Torino, Italy

6.10 pm: **Closing remarks of day I**

6.15-7.00 pm: **AICC Steering Board** (Board of Directors only)

8:00 - 9:00 am: *Registration*

SESSION II: Metabolic rewiring in tumor progression and response to therapy (*Chairs: Miriam Martini, Stefania Meschini*)

9.00-9.40 am: **Novel connections between autophagy pathways and the metabolic control of gene expression in cancer and inflammation.** **Patrizia Agostinis**, Cell Death Research & Therapy lab, Department of Cellular and Molecular Medicine & VIB Center for Cancer Biology, KU Leuven, Leuven, Belgium

9.40-10.00 am: **Survival pathways triggered by respiratory Complex I deficiency in solid cancers.** **Anna Maria Porcelli**, Department of Pharmacy and Biotechnology, University of Bologna, Italy

10.00-10.20 am: **P53 modifies the outcome of inducing metabolic collapse as an anticancer strategy.** **Giuseppe Gasparre**, Medical Genetics Unit, Department of Medical and Surgical Sciences (DIMEC) and Center for Applied Biomedical Research (CRBA), University of Bologna, Italy

10.20-10.40 am: **Regulation of protein synthesis and respiration by a common molecular chaperone to develop novel therapeutic approaches in cancer cells.** **Franca Esposito**, Department of Molecular Medicine and Medical Biotechnologies, Università di Napoli Federico II, Napoli, Italy

10.40-11.00 am: **Preventing cancer metastasis with specific inhibitors of mitochondrial superoxide.** **Pierre Sonveaux**, Pole of Pharmacology & Therapeutics, IREC Institute, Catholic University of Louvain (UCLouvain), Belgium

11.00-11.20 am: **coffee break, poster view and networking**

SESSION III: Dealing with complexity: metabolic plasticity and heterogeneity in cancer progression (*Chairs: Francesca Zazzeroni, Joanna Kopecka*)

11.20-11.40 am: **Metabolic heterogeneity as a driver of stem cell fate and tumorigenesis.** **Carlos Sebastian**, Department of Cell Biology, Physiology and Immunology, University of Barcelona, Spain

11.40-12.00 am: **The chromatin role of MTHFD2 in cancer.** **Sara Sdelci**, Centre for Genomic Regulation, Barcelona, Spain

12.00-12.10 am: **Mitochondrial fission links ECM mechanotransduction to metabolic redox homeostasis and metastatic chemotherapy resistance.** Sirio Dupont, University of Padova, Italy

12.10-12.20 am: **MiR423-5p/Malat-1 loop as a new tool for therapeutic intervention in Hepatocarcinoma.** Marco Bocchetti, University of Campania "Luigi Vanvitelli", Napoli, Italy

12.20-12.30 am: **Video Killed the Imaging Star.** Francesco Girardi, Media System Lab

12.30-12.40 am: **Microtech: the logical choice.** Davide Liccardo, Microtech

12.40-12.50 am: **Altered iron metabolism promotes cancer-induced muscle wasting.** Myriam Hsu, University of Torino, Italy

12.50 am-1.00 pm: **SIRT3 and metabolic reprogramming mediate the antiproliferative effects of whey in human colon cancer cells.** Nunzia D'Onofrio, University of Campania "Luigi Vanvitelli", Napoli, Italy

1.00-2.00 pm: **lunch, poster view and networking**

SESSION IV: Disrupting the bad liaisons between tumor and its microenvironment (I) (Chairs: *Andrea Graziani, Fabio Penna*)

2.00-2.20 pm: **Rewiring of acetyl-CoA metabolism supports pancreatic carcinogenesis.** Alessandro Carrer, Veneto Institute of Molecular Medicine (VIMM) and Department of Biology, University of Padova, Italy

2.20-2.40 pm: **A lysosomal lipid switch sensitizes to nutrient deprivation and mTOR targeting in pancreatic cancers.** Emilio Hirsch, Molecular Biotechnology Center, University of Torino, Italy

2.40-3.00 pm: **Macrophage Immunometabolism, Where Are We (Going)?** Jan Van den Bossche, Department of Molecular Cell Biology and Immunology, Amsterdam UMC, Vrije Universiteit Amsterdam, The Netherlands

3.00-3.10 pm: **Complex biology, tailored solutions.** Guido Cimoli, LSA Automated Solutions/Tecan

3.10-3.20 pm: **IVTech: the next generation of in-vitro models.** Tommaso Sbrana, IVTech

3.20-3.30 pm **Iron-induced oxidative stress promotes PD-L1 transcription through the activation of c-Myc in Non-Small Cell Lung Cancer (NSCLC) cells.** Anna Martina Battaglia, University of Catanzaro "Magna Graecia", Catanzaro, Italy

3.30-3.40 pm: **Osteoblast-derived extracellular vesicles influence MNNG/HOS osteosarcoma cells' metabolic activity and redox balance.** Marco Ponzetti, University of L'Aquila, Italy

3.40-3.50 pm: **Primary bone marrow-derived mesenchymal stem cells secrete citrate and take up glutamate under physiological culture conditions.** Giuseppe Taurino, University of Parma, Italy

3.50-4.10 pm: **coffee break, poster view and networking**

SESSION V: Disrupting the bad liaisons between tumor and its microenvironment (II) *(Chairs: Andrea Graziani, Fabio Penna)*

4.10-4.50 pm: **Lactate-driven metabolic and epigenetic prostate tumor-stroma crosstalk.** Paola Chiarugi, Department of Experimental and Clinical Biomedical Sciences, School of Medicine, University of Firenze, Italy

4.50-5.10 pm: **At the crossroads of tumor microenvironment and metabolism: role of acidosis in tumor evolution.** Cyril Corbet, Pole of Pharmacology and Therapeutics (FATH), Institut de Recherche Expérimentale et Clinique (IREC), UCLouvain, Brussels, Belgium

5.10-5.30 pm: **Targeting lactate transport as a therapeutic approach in cancer.** Fatima Baltazar, Life and Health Sciences Research Institute (ICVS), University of Minho, Portugal

5.30 pm: **Closing remarks of day II**

5.30-6.30 pm: **AICC general assembly** (AICC members only)

SESSION VI: From the complexity of cancer cell metabolism toward a new therapeutic era (*Chairs: Katia Scotlandi, Enrico De Smaele*)

9.00-9.40 am: **Microenvironment, mechanosignaling and metabolism in cancer: emerging roles of mutant p53.** **Giannino Del Sal**, Department of Life Sciences, University of Trieste, ICGEB-International Centre for Genetic Engineering and Biotechnology-Trieste, and IFOM-Firc Institute of Molecular Oncology- Milano, Italy

9.40-10.00 am: **Repurposing metabolic drugs revealed lipid anabolism as a metabolic vulnerability to kill Triple-Negative Breast Cancer Stem-Like Cells and reduce metastases.** **Luca Cardone**, Institute of Biochemistry and Cell Biology (IBBC)-National Research Council (CNR), Roma, and Tumor Immunology and Immunotherapy Unit, IRCCS Regina Elena National Cancer Institute, Roma, Italy

10.00-10.20 am: **A sound waves-based platform for 3D cancer model development.** **Tiziano Serra**, AO Research Institute, Davos, Switzerland

10.20-10.40 am: **Metabolic insights from cell culture to animal models.** **Saverio Tardito**, Oncometabolism Lab - Cancer Research UK Beatson Institute, Glasgow, United Kingdom

10.40-10.50 am: **Tumor microenvironment and -omics: the role of gentle cell sorting.** **Dario Leone**, MM BioTech/Miltenyi

10.50-11.00 am: **High-content screening with Digital Holographic Microscopy: towards an identification of phenotypes and compounds' model of action.** **Benjamin Rappaz**, Lyncée-Tech

11.00-11.10 am: **3D, Label-Free, Live Cell Imaging for Cell Morphology.** **Daniel Ghete**, Tomocube

11.10-11.30 am: **Coffee break and posters/virtual stands view**

Closing lecture (*Chairs: Katia Scotlandi, Andrea Graziani*)

11.30-12.10 am: **Translating current metabolic knowledge into future cancer therapy.**

Eyal Gottlieb, Laura and Isaac Perlmutter Chair of Cancer Research, Ruth and Bruce Rappaport Faculty of Medicine, Technion – Israel Institute of Technology, Haifa, Israel

12.10-12.30 am: **AWARDS CEREMONY and CLOSING REMARKS**

AICC SCIENTIFIC BOARD

President

Michele Caraglia, University of Campania “L. Vanvitelli”, Naples, Italy

Vice President

Stefania Meschini, Istituto Superiore di Sanità, Rome, Italy

Board of Directors:

Massimo Donadelli (Secretary), University of Verona, Verona Italy

Francesca Zazzeroni (Treasurer), University of L’Aquila, L’Aquila, Italy

Enrico De Smaele, La Sapienza University of Rome, Rome Italy

Maria Teresa Di Martino, “Magna Graecia” University, Catanzaro, Italy

Chiara Riganti, University of Turin, Turin, Italy

Katia Scotlandi (past President), IRCCS Istituto Ortopedico Rizzoli, Bologna, Italy

SCIENTIFIC AND ORGANISING COMMITTEE

Chiara Riganti

Federico Bussolino

Paola Cappello

Andrea Graziani

Joanna Kopecka

Letizia Lanzetti

Miriam Martini

Evelin Pellegrini

Fabio Penna

Paolo E. Porporato

Luca Primo

Guido Serini

UNDER THE PATRONAGE OF:

University of Torino

School of Medicine, University of Torino

MD/PhD Program of the School of Medicine

PhD program in Molecular Medicine

PhD program in Biomedical Sciences and Oncology

PhD program in Experimental Medicine and Therapy

PhD program in Medical Physiopathology

PhD program in Complex Systems for Quantitative Biomedicines

33rd AICC ANNUAL CONFERENCE:

INTERNATIONAL MEETING ON CANCER METABOLISM

Faculty

Patrizia Agostinis, UCL Louvain, Louvain, Belgium

Fatima Baltazar, University do Minho, Porto, Portugal

Luca Cardone, CNR/IRCCS Istituto Regina Elena, Roma, Italy

Daria Capece, Università de L'Aquila, Italy

Alessandro Carrer, VIMM and Università degli Studi di Padova, Italy

Ferdinando Chiaradonna, Università degli Studi di Milano Bicocca, Italy

Paola Chiarugi, Università degli Studi di Firenze, Italy

Cyril Corbet, UCL Brussels, Belgium

Giannino Del Sal, IFOM and Università degli Studi di Trieste, Italy

Franca Esposito, Università Federico II, Napoli, Italy

Christian Frezza, MRC/University of Cambridge, UK, and University of Cologne, Germany

Giuseppe Gasparre, Università degli Studi di Bologna, Italy

Eyal Gottlieb, Technion University, Haifa, Israel

Emilio Hirsch, MBC/Università degli Studi di Torino, Italy

Massimiliano Mazzone, UCL Louvain, Louvain, Belgium, and Università degli Studi di Torino, Italy

Anna Maria Porcelli, Università degli Studi di Bologna, Italy

Nadia Raffaelli, Università Politecnica delle Marche, Italy

Sara Sdelci, Centre for Genomic Regulation, Barcelona, Spain

Carlos Sebastian, University of Barcelona, Spain

Tiziano Serra, AO Foundation, Davos, Switzerland

Antonio Sica, Humanitas Clinical and Research Center – IRCCS/Università degli Studi del Piemonte Orientale, Italy

Pierre Sonveaux, UCL Louvain, Louvain, Belgium

Saverio Tardito, Beatson Research Institute, Glasgow, UK

Registration fees

Registration fees	Meeting fee (VAT included)
On-site attendance (maximum 100 participants)	200.00 €
On-line attendance (no limit of participants)	150.00 €
PhD students, students of medical specialization schools, undergraduate students (both on-site/on-line) *	75.00 €
PhD students of the School of Health and Life Sciences, students of School of Medicine, University of Torino (both on-site/on-line) **	<i>Free admittance</i>

* Please provide a certificate of your status of student along with the payment receipt to: aicc.meeting@gmail.com

** To register: do not use the link to the Google form, but send the "Registration form for UNITO students" (from: <https://www.aicc.website/>), with a certificate of your enrollment in the PhD School of Health and Life Sciences, or School of Medicine, University of Torino, to: aicc.meeting@gmail.com.

The first 20 registered students from University of Torino have the possibility to attend on-site; from the 21st registration, online attendance is possible (with no limit of participants).

Please notice that in case you have chosen to attend onsite and you change this option/would not be able to attend, you can attend online, but AICC cannot pay back the difference between the onsite and the online fee.

Registration to the meeting includes:

- Admission to all meeting sessions and meeting online material
- Abstract book file (PDF)
- Attendance certificate
- Conference kit
- Coffee break, light lunch

Registration without payment is not considered valid.

PAYMENT

Bank transfer to:

Associazione Italiana di Colture Cellulari

IT97B0538703612000003002045 BPER BANCA S.P.A.

L'Aquila, agenzia 10, Via Campo di Pile, 67100 L'Aquila (AQ)

Reason for payment (causale): please, indicate your surname, name and title of the event.

INFORMATION

To participate to the meeting is required a valid AICC membership.

Membership request forms are available at the following website:

<https://www.aicc.website/cosaelaicc/sottoscrizioni/>

The membership is free for the year 2021.

The admittance on-site is possible only for participants with a valid EU-Green Pass, according to the current Italian Law (D.L. 6 agosto 2021, n. 111).

In case you do not have a valid EU-Green Pass at the time of the conference, you can attend online.

AICC Secretariat

Massimo Donadelli, massimo.donadelli@univr.it

Evelin Pellegrini, evelin.pellegrini@ior.it

Event technical support

Xenia Eventi, info@xeniaeventi.it

On-site Secretariat

Joanna Kopecka, joanna.kopecka@unito.it

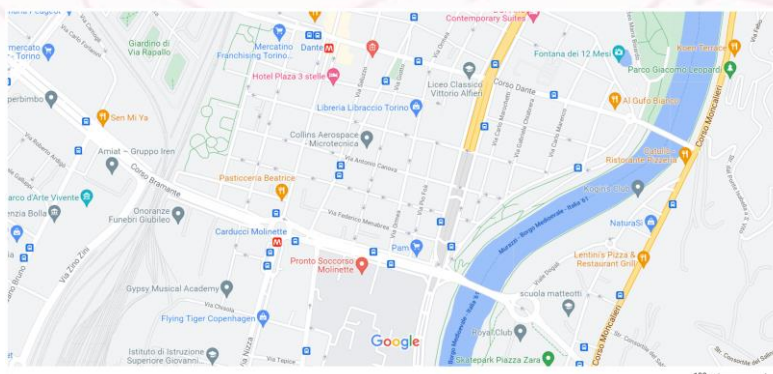
Iris Chiara Salaroglio, irischiara.salaroglio@unito.it

Conference Venue

Meeting Center “Molinette Incontra”

Aula Magna “A.M. Dogliotti”

Address: AOU Città della Salute e della Scienza, Corso Bramante 88, 10126 Torino (Italy)



33rd AICC ANNUAL CONFERENCE:

INTERNATIONAL MEETING ON CANCER METABOLISM

Registration and abstract submission

Opening: 1st October 2021 - **Deadline:** 10th November 2021

To register, please use this link (all participants, except UNITO students):

https://docs.google.com/forms/d/e/1FAIpQLSddVWcfO9X4YhgbiLiHcyngR4I8_ne2P_Cm0Gp2XLO2oXj-HA/viewform?usp=sf_link

Please note that this is a provisional registration; the registration will be confirmed after completing the payment and sending the payment receipt to: aicc.meeting@gmail.com

For UNITO students: please do not use the above link, but send the “Registration form for UNITO students” (from: <https://www.aicc.website/>), along with a certificate of your enrollment in the PhD School of Health and Life Sciences or School of Medicine, to: aicc.meeting@gmail.com

ABSTRACT SUBMISSION

The submission of abstracts for oral presentations or posters is encouraged, particularly from early-career researchers. Registration to the meeting is required to submit an abstract.

Deadline for abstract submission: 10th November 2021

The abstract form is available on the AICC website: <https://www.aicc.website/>

To submit your abstract, please send the filled abstract form to: aicc.meeting@gmail.com

Among the submitted abstracts, the AICC Scientific Board will select 8 oral communications (10 minutes).

Instruction for poster format (online format only) will be provided to all participants. Poster presenters are asked to submit a 3-minute pre-registered Power point flash presentation of their work along with their poster.

Participants will be informed of the selection by **15th November, 2021**. The deadline to submit poster+ flash presentation is **18th November 2021**.

AWARDS

AICC will award best oral presentation(s) by authors younger than 35 years of age.

AICC will also award best poster/flash presentation(s) by authors younger than 35 years of age.

VIRTUAL POSTERS

Posters will be presented online. Poster view and poster flash presentations will be accessible to both on-site and on-line participants with a dedicated free platform provided by Xenia Eventi srl (info@xeniaeventi.it).

VIRTUAL STAND TOURS

During the coffee breaks and lunch time, virtual stands of companies will be accessible to both on-site and on-line participants **in an interactive** way with a dedicated free platform provided by Xenia Eventi srl (info@xeniaeventi.it).

COVID-related procedures and important information

Safety is the priority of AICC meeting.

Please read carefully the instructions below.

The admittance on-site is possible only for participants with a valid EU-Green Pass, according to the current Italian Law (D.L. 6 agosto 2021, n. 111).

The access to the meeting room is subjected to the temperature control and to filling of a specific self-declaration on: the absence of known symptoms related to Sars-CoV-2, the absence of known contacts with persons who tested positive for Sars-CoV-2 in the last 48 h, the absence of the condition of quarantine for the participant.

Participants name will be recorded to guarantee the most efficient traceability.

Participants are asked to:

- wear facial masks (surgical masks or FFP2 masks) during the event, except during the talks
- hygienize their hands with the hydrogels present in the meeting room every time they enter
- follow the indications about the social distancing in the meeting room and during breaks

Facial masks and individual hygienizing hydrogels will be also present at the registration desk and can be provided for free to all participants.

The AICC staff will be happy to provide any further support to grant a safe and enjoyable meeting.

Please note that:

- AICC does not cover the costs of quarantine in case of positivity to Sars-CoV-2 infection
- AICC does not cover the costs of Sars-CoV-2 molecular/antigenic tests required for travelling

Participants are strongly encouraged to provide themselves with a **travel insurance**, to cover the additional costs related to travel cancellation/changes, and with a **health insurance**, to cover the costs of eventual quarantine or additional tests related to Sars-CoV-2 infection.

Travelling in Italy

The information about the rules to enter in Italy from other countries and travelling within Italy can be found at the website of the Italian Ministry of Health (constantly updated):

<https://www.salute.gov.it/portale/nuovocoronavirus/homeNuovoCoronavirus.jsp?lingua=english>

Please regularly check this website.

Diagnostic tests

In case you need a molecular/antigenic tests for Sars-CoV-2, tests can be performed at:

Torino Caselle International Airport:

<https://www.aeroporto torino.it/en/tolive/airport-services/covid-test-point>

Milano Malpensa International Airport:

<https://www.milanomalpensa-airport.com/en/passenger-guide/news/nasal-swab-testing>

Torino train station “Porta Nuova” (h 10.00-18)

Pharmacies in Torino: please do not hesitate to ask to the AICC staff for the pharmacy nearest to the meeting center or your hotel.

With the unrestricted grants of:



Journal of
Experimental and
Clinical Cancer Research

PRELIMINARY PROGRAM

33rd AICC ANNUAL CONFERENCE:
INTERNATIONAL MEETING ON CANCER METABOLISM