ICTR-PHE 2012

http://cern.ch/ICTR-PHE12

International Conference on Translational Research in Radiation Oncology

Physics for Health in Europe

First Announcement

February 27 – March 2, 2012
Centre International de Conférences de Genève (CICG)
International Conference Centre
Geneva, Switzerland

Organised in Collaboration with

ESO ¦ ESTRO ¦ EANM ¦ EFOMP ¦ ENLIGHT
ESA ¦ ESF ¦ ESR ¦ ESRF ¦ EU ¦ EuCARD ¦ ILL ¦ PARTNER

Important dates:

Abstract submission and early registration deadline	**October 3, 2011**
Late registration	**January 15, 2012**

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First ICTR-PHE 2012 Conference: Uniting Biology, Medicine and Physics to fight cancer

Dear Colleague,

On behalf of the Organizing Committee it is our privilege to invite you to attend ICTR-PHE 2012 (International Conference on Translational Research in Radio-Oncology and Physics for Health in Europe), which will take place in Geneva on February 27 – March 2, 2012.

This conference represents a new reality in Oncology, as it brings together two major events in the interdisciplinary field at the intersection of Medicine, Biology and Physics: the ICTR conference and CERN's Physics for Health workshop.

The ICTR conferences started in 2000 with the objective to update the radiation oncology community on the most recent advances in translational research, reinforce the synergies among clinicians, biologists and medical physicists, and, last but not least, trigger personal and institutional contacts favouring a more efficient collaboration between laboratories worldwide.

The first edition of the Physics for Health workshop was organised by CERN in February 2010 with the objective of reviewing the progress in the domain of physics applications in life sciences, stimulating the exchange between different teams and indicating the subjects most suitable for further studies in diagnosis and therapy. The workshop, which was the first of its kind, brought together some 400 healthcare professionals, biologists and physicists to examine the increasingly important interface between physics and health.

One of the main reasons to merge ICTR and PHE is to develop new strategies to treat cancer, by uniting biology and physics with clinics. These novel synergies will be the "red thread" that ICTR-PHE 2012 will follow during this 5-day conference. In order to catalyse stimulating exchanges and interactions between experts and young researchers, top-ranked abstracts will be included in the Forum Workshop and Meet the Professor sessions. ICTR-PHE 2012 will also pay a tribute to those institutions and individuals who significantly contribute to the development of translational research in oncology. Last, but not least, we hope to foster a friendly atmosphere which will result in positive exchange throughout the conference.

This Conference will develop further expansion of our partnership with industry, with concerted efforts in Research & Development and a common approach to emerging educational modalities in translational research. All this will be formalised through the publication of the Conference abstracts in a Supplement of "Radiotherapy and Oncology" fully dedicated to ICTR-PHE 2012.

Setting up the stage of a new international conference is always a challenge, requiring an optimal coordination between all the components of the enterprise. But we are strongly convinced that the efforts we will put forth for a better integration along tracks where radiation physics, biology and medicine intertwine, will be key to success.

The Organizing Committee of ICTR-PHE 2012 is looking forward to welcoming you to Geneva so book February 27 – March 2, 2012 in your agenda now!

Jacques Bernier and Manjit Dosanjh,
Conference Chairs

Kian K. Ang , Ugo Amaldi, Michael Baumann, Soeren M. Bentzen, Jacques Bernier, Sergio Bertolucci, Jean Bourhis , Jean-François Chatal, Alberto Del Guerra, Manjit Dosanjh, Marco Durante, Wolfgang Enghardt, Zvi Fuks, Ulli Köster, W. Gillies McKenna, R. Mohan, Steve Myers, Ken Peach, and Brad Wouters

Advisory Board

ICTR-PHE 2012

ICTR-PHE 2012 Scientific Committee
(as of February 2011)

Advisory Board

Kian K. Ang (Pre-Clinical Strategies)
Ugo Amaldi (New Technologies)
Michael Baumann (Pre-Clinical Strategies)
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Jean-François Chatal (Nuclear Medicine)
Alberto Del Guerra (Detectors and Imaging)
Manjit Dosanjh
Marco Durante (Biology)
Wolfgang Enghardt (Detectors and Imaging)
Zvi Fuks (Clinical Perspectives)
Ulli Köster (Nuclear Medicine)
W. Gillies McKenna (Biology)
Rahde Mohan (Radiotherapy)
Steve Myers
Ken Peach (New Technologies)
Brad Wouters

Sections:

Biology
M. Durante, Darmstadt
W. G. Mc Kenna, Oxford
J.M. Brown, Stanford
B. Jones, Oxford
B. Wouters, Toronto

Pre-Clinical Strategies
K.K. Ang, Houston
M. Baumann, Dresden
M. Verheij, Amsterdam

Nuclear Medicine
J.F. Chatal, Nantes
U. Köster, Grenoble
D. Lewis, CERN

Detectors and Imaging
W. Enghardt, Dresden
A. Del Guerra, Pisa
S. Bertolucci, CERN
P. Lecoq, CERN
D. Townsend, Singapore

New Technologies
U. Amaldi, Novara
K. Peach, Oxford
S. Rossi, Milano
T. Haberer, Heidelberg

Radiotherapy
S.M. Bentzen, Madison
R. Mohan, Houston
D.R. Olsen, Oslo
S. Korreman, Copenhagen

Clinical Perspectives
J. Bourhis, Villejuif
Z. Fuks, New-York
J. Bernier, Genolier and Geneva
D. Brizel, Durham

ICTR-PHE 2012 Executive Committee

Jacques Bernier, Genolier and Geneva
Sergio Bertolucci, CERN
Alberto Costa, Milano
Manjit Dosanjh, CERN
Raymond Miralbell, Geneva
Steve Myers, CERN

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SUPPORTING INSTITUTIONS

In collaboration with
The European School
of Oncology

European School of Oncology
Learning to care

Under the auspices of the
European Organisation for
Research and Treatment of Cancer

EORTC
European Organisation for Research and Treatment of Cancer
1962-2002
40 years of excellence in developing new standards of cancer care

Fondazione FARO, Geneva

FARO

CERN
European Organization
for Nuclear Research

CERN

Fondazione TERA, Novara

TERA
Fondazione per Adroterapia Oncologica

European Society for Therapeutic
Radiology and Oncology

ESTRO
European Society for Therapeutic Radiology and Oncology

University of Geneva,
and Geneva University Hospital

UNIVERSITÉ DE GENÈVE

HUG
Hôpitaux Universitaires de Genève

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Conference Arrangements and Organization

Venue

All sessions will be held at the Centre International de Conférences de Genève - International Conference Center of Geneva (CICG), conveniently located near the International Airport and major highways, the railway station, Lake Geneva and the historic old town. A vast choice of hotels offers the delegates first-rate hospitality just a stone's throw from the conference centre.

Conference Environment and Climate

Distinguished by its unique geographical position in the heart of Europe, state-of-the-art technology, and high-quality services, Geneva is the ideal venue for international events and a top conference centre where the cross-fertilization of ideas encourages an open mind and objective view of the world. Located between the Alps and the Jura mountains, at the extreme south-west of Switzerland and the Lake Léman, Geneva is the central cross-roads of Western Europe. Geneva is situated at a 373-meter altitude, which together with the lake, tempers the prevailing continental climate. In March temperatures usually range between 8 and 15°. Snow falls in the nearby Alps are frequent at this period of the year.

Registration

Registration will open on June 1st. Information will be available on the website http://cern.ch/ICTR-PHE12

Registration Fee

Early registration	Swiss Francs	400	(deadline: October 3, 2011)
Late registration	Swiss Francs	700	(deadline: January 15, 2012)
On site registration	Swiss Francs	1'000	

The registration fee covers access to the Conference, a copy of the final programme and abstract book, coffee breaks and lunches during the Conference. Fees transferred later than February 1, 2012 may not be credited to the Conference account prior to the Congress registration. Therefore, it is mandatory to provide the registration desk personnel with a copy of the transfer order as proof of payment. Registration fees (less a CHF 80.00 administrative charge) will be refunded only if notification of cancellation will have reached the Conference Secretariat before January 15, 2012. No refunds will be issued after this date and no-shows are not eligible for a refund. All refunds will be made within 3-4 weeks after the Conference. If you register but cannot attend the Conference, you may elect to pass on your registration to another person with your Organization.

Language

The language of the Conference will be English. No simultaneous translation is foreseen.

Conference Abstracts

The Conference abstracts will be published as a supplement to Radiotherapy and Oncology (Green Journal).

Accreditation, travel grants

A list of accreditations (European Accreditation Council for Continuing Medical Education (EACCME) and American Medical Association (AMA) will be regularly updated on the Conference website.

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Projection facilities
Powerpoint and PDF files will be used.
Posters
All posters will be on continuous display throughout the Conference.

Technical Exhibition
An exhibition will take place in the Conference Center Main Hall, close to the lecture and poster presentation halls.

Swiss International Air Lines is proud to be the Official Carrier for the **ICTR-PHE 2012** and is offering special Congress Fares to all participants. These Congress Fares offer reductions of up to 25% depending on the fare type, route and space availability. Congress Fares are valid on the entire SWISS route network for flights to Switzerland, including flights operated by partner airlines under an LX flight number. These fares are now bookable for the travel period 14 days prior to and 14 days after the event.

To take advantage of this offer, book easily and conveniently through SWISS.COM via the following link: **www.swiss.com/event**

Please enter your email address and the following **event code: 4004-3632-4041-9268**. The special SWISS congress fare is marked with a "C". It may not necessarily be the lowest fare but it offers flexibility in the event of rebooking or cancellation. SWISS looks forward to pampering you on board with typical Swiss hospitality.

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ICTR-PHE 2012

Scientific Programme

In the Arena

General Research Areas

Functional Imaging
Developmental Radiation Physics
Molecular Pathology and Oncology
Structural Biology
Human Cancer Genetics
Pre-Clinical Data
Experimental Therapeutics
Early clinical testing
Radiobiology in therapy and space science
Radioisotopes in diagnostics and therapy
Prospects in medical imaging
Novel technologies in radiation therapy

Specific Topics (non exhaustive list)

Molecular imaging
Positron emission tomography
New markers in CT/PET
Targeted imaging including hypoxia markers
Brachytherapy
Radio-surgery
Navigation systems
Single-Cell Microbeams
Microbeam probes of cellular radiation response
Magnetic field research
Intensity modulated radiation therapy (IMRT)
Tomotherapy
Particle radiotherapy, hadrontherapy
Image-guided radiotherapy, tissue motion
Sparing normal tissues and critical organs
Novel approaches in Quality Assurance
Telematics
Biologic and physical optimization in treatment planning
Bio-mathematical approaches for experimental data
Novel approaches in fractionation alteration
Gene expression profiling
Predictive assays
Cell cycle and response to treatment
Mechanisms of radiation induced cell death
How to develop a successful cancer drug (chemo-radiation approaches)?
Pitfalls in developing cancer treatment agents
Applications of proteomics and genomics in drug discovery
Mechanistic combinations
Practical issues in tissue research
Tumor vaccines
AKT/PTEN/Survival pathways
New targeting strategies: basic mechanisms and clinical outcome
Drug radioresistance
Molecular targeting
Receptors
Structure-activity relationships
Tumor hypoxia
Hypoxic cytotoxins
Micro-environmental determinants of response to radiation
Tumor vasculature
Vascular disrupting agents
Tumor endothelial cell interactions
Angiogenesis and metastasis inhibitors
Radiation effects on angiogenesis
Apoptosis pathway targeting agents
Proteasome inhibitors
Stress pathway inhibitors
Chromatin modifying agents
Cellular therapies and cytokines
Monoclonal antibodies and target toxins/nuclides
Radiosensitizers: in vitro and in vivo models
Radioprotectors
Genetic control of cancer cell and normal tissue Radiosensitivity
Intra- and inter-cellular signaling cascades induced by radiation
Signal transduction modulators
Cyclins and CDKs
Telomerase-targeting agents
Gene therapy and antisense approaches
Optimising targets for angiogeneic inhibition
Stroma as a target
DNA, protein, and membrane chemistry
DNA damage recognition
DNA repair in tumor and normal tissues
DNA adducts
Normal tissue radiobiology
Antimetabolites
Bioreductive agents
Topoisomerase I / II inhibitors
Tubulin-interacting agents
DNA-interactive agents
Prodrugs
Drug delivery
Drug resistance and modifiers
Radiation interactive agents
Immunotherapy and ionizing radiation
Hormonal agents
Tumor tissue banks
Track structure applications
Oxidative stress
Bystander effects and radiotherapy
Microdosimetry
Genomic instability
Tumor susceptibility genes
Radiation carcinogenesis
Epigenetics
Genomics
Proteomics
Histones and response to radiation
Ubiquitin system in cancer therapy
Novel organisms for studying radiation response
Stem cells (tumor response and normal tissue damage)
Hyperthermia
Photodynamic Therapy
Radiobiology
Radiation oncology
Particle therapy
Radiation therapy
Treatment plans in radiotherapy
Radioisotopes
Nuclear medicine
Medical imaging
Challenges for simultaneous PET-MRI
Time of Flight PET
Treatment of moving targets
Scanned ion beam therapy
Linac
Cyclotron
Technology in emerging markets
Comprehensive engineering in radiotherapy

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SCIENTIFIC PROGRAMME AT A GLANCE

Monday 27 February	Tuesday 28 February	Wednesday 29 February	Thursday 1 March	Friday 2 March
Opening Ceremony		**Keynote Lecture (ESTRO: Physics)**	**Keynote Lecture (G.H. Fletcher)**	**Proffered papers** • Biology, Physics, Clinics.
Radiobiology in therapy and space science • Missing data in radiation effects in deep space. • Missing data for Treatment Planning Systems in ion therapy. • Radiobiological research for improving particle therapy. • Treatment of radiation-resistant tumours. • Future needs.	**Prospects in detectors and medical imaging** • Position-sensitive detectors. • Compton cameras. • New methods of photon detection. • Time-of-Flight for PET. • Challenges of hybrid PET/MRI. • Fast image reconstruction algorithms for in-situ treatment planning.	**Plenary lectures (1 speaker/topic)** • Physics meet Biology. • Physics meet Clinics. • In-room Imaging.	**Forum** • Predictive tools: new algorithms. • Tumor micro-environment. • Physics.	**Symposium** • Cancer stem cells. • Tumor radiosensitivity modulation. • Physics.
		Plenary lectures (1 speaker/topic) • Radio-isotopes in therapy. • Biological adaptive radiotherapy. • Improving precision in imaging and treatment.	• EORTC session. • Oral Poster Presentation. • Oral Poster Presentation.	**Forum** • Repair mechanisms in tumor and normal cells. • Drug-radiation interactions. • Radiosensitization and radioprotection.
LUNCH	**LUNCH**	**LUNCH**	**LUNCH**	**LUNCH**
Radioisotopes in diagnostics and therapy • 99Mo/99Tc supply and 99Mo production. • Therapy of metastases and systemic tumours with radioisotopes. • Clinical experience with commercial beta-radioisotopes coupled to antibodies. • Role of radiotracers in drug development.	**Novel Technologies and therapy** • New accelerators for medical applications. • Gantries for ions. • Scanning beams and moving targets. • Future developments.	**Symposium (3 speakers/session)** • Tumor targeting and normal tissue protection. • Image-guided prescription and planning of RT. • Long-term perspectives in Hadrontherapy.	**Keynote Lecture:** **(G. Adams: Biology).**	**Workshops** • Tumor vascularization. • Targeted therapies: from bench to bedside. • Physics.
		Symposium (3 speakers/session) • New algorithms in treatment planning and delivery. • Montecarlo in treatment planning. • Status and perspectives in radiology.	**Workshops** • Targeting signaling pathways. • Normal tissues: from prediction to facts. • Physics.	**Proffered papers** • Biology, Physics. Clinics.
			Proffered papers • Biology, Physics, Clinics.	**ESO Plenary Session** • 2 Lectures. **E. van der Schueren Award** • 1 Lecture.