UNIVERSITÀ DEGLI STUDI
DI MILANO

DIPARTIMENTO DI FISICA

aifm
ASSOCIAZIONE ITALIANA DI
FISICA MEDICA

Workshop

"Ricerca e innovazione in Fisica Medica e Biomedica:

la LOMBARDIA risponde"

Sinergia tra Enti di Ricerca, Università e Strutture Sanitarie

Milano ● 17 maggio 2019

Sala C03 ● Via Mangiagalli 25

Responsabile Scientifico : Alessandro Lascialfari

Coordinatori Scientifici : Michela Lecchi, Cristina Lenardi,

Angelo Monti, Ivan Veronese

PROGRAMMA SCIENTIFICO

Evento ECM nr. 416- 263386
Crediti Assegnati: 5
Professioni: Fisico
Obiettivo formativo: contenuti tecnico-professionali (conoscenze e competenze)
specifici di ciascuna professione, specializzazione ed attività ultraspecialistica.

Provider ECM

Associazione Italiana di Fisica Medica - AIFM
Piazza della Repubblica 32 - Milano
www.aifm.it

Comitato Scientifico

Daniela Bettega, Carlo Cavedon, Paola Enrica Colombo, Flavia Groppi, Alessandro Lascialfari, Michela Lecchi, Cristina Lenardi, Lorella Mascaro, Angelo Monti, Ivan Veronese

Responsabile Scientifico

Alessandro Lascialfari

Coordinatori Scientifici

Michela Lecchi, Cristina Lenardi, Angelo Monti, Ivan Veronese

Finalità del Workshop

La ricerca nel campo della Fisica Medica e Biomedica contribuisce ad affrontare e risolvere problemi relativi alla salute dell'uomo, usufruendo in vari modi e forme dei principi e metodi propri della fisica, delle conoscenze attinenti all'ambito biologico, e delle esperienze e necessità di varie specialità mediche, tra cui ad esempio l'oncologia, la cardiologia e la neurologia. Il presente workshop ha la finalità di promuovere l'interazione tra i fisici della Regione Lombardia che si occupano o si vogliano semplicemente avvicinare alla ricerca nel campo della Fisica Medica e Biomedica. In tal modo si intende stimolare un processo di integrazione e collaborazione sinergica fra i fisici operanti all'interno di Università, Enti di Ricerca e Strutture Sanitarie pubbliche e private, per aumentare la visibilità e competitività dei gruppi di ricerca lombardi nel panorama internazionale della Fisica Medica e Biomedica.

PROGRAMMA SCIENTIFICO

Milano ● 17 maggio 2019, Sala C03 ● Via Mangiagalli 25

8.30 Registrazione partecipanti

8.50 Introduzione al Workshop (Alessandro Lascialfari)

Sessione scientifica *(Moderatore : Ivan Veronese)*
9.00 An Integrated System for 3D Energy Deposition Measurements in a Water Phantom for Hadron Therapy. *Marco Silari*
9.20 Study of nuclear processes in particle therapy. *Serena Valle*
9.40 Clinical retrospective study for in-vivo treatment verification in particle therapy with the INSIDE bimodal system. *Elisa Fiorina*
10.00 Pre-selection of robust fdg-pet radiomic features to find predictors of outcome after radio-chemotherapy for pancreatic cancer. *Martina Mori*
10.20 Low contrast detectability and delivered dose in neuroradiological procedures. *Monica Cavallari*
10.40 Quantitative analysis of collagen microstructure in vitro and in vivo by means of multi-phasor analysis of second harmonic generation microscopy. *Giuseppe Chirico*

11.00 Coffee Break

11.20 Poster session

Sessione scientifica *(Moderatore : Cristina Lenardi)*
11.50 On-chip magnetophoretic attraction and detection of malaria infected red blood cells. *Francesca Milesi*
12.10 Una Piattaforma Integrata per Tecnologie Mediche Tridimensionali. *Paolo Milani*

12.30 Intervento delle autorità

13.00 Lunch – Poster session

14.00 A method for determining cut-off values for diagnosis of Parkinson using iodine-123 ioflupane scintigraphy. *Fabio Tanzi*

14.20 Assessment of radionuclidic impurities generated in [^{18}O] H$_2$0 during ^{18}F production with cyclotron. *Barbara Smilgys*

14.40 I-131 Activity calculation with thyroid mass reduction in benign disease therapy following the EANM guidelines. *Paola Nocera*

15.00 MLC parameters from static fields to VMAT plans: an evaluation in a RT-dedicated MC environment (PRIMO). *Giacomo Reggiori*

15.20 T1 mapping of globus pallidus to evaluate the effects of manganese exposure in an adolescents: preliminary results. *Lorella Mascaro*

15.40 Validation of probabilistic fiber tracking method by evoked potential recorded in epilectic patients. *Stefania Nici*

16.00 Coffee break

16.20 Poster session

Sessione scientifica *(Moderatore : Angelo Monti)*

16.50 Colorectal adenocarcinoma, immune system and radiation: a co-colture study using a radiotherapy accelerator. *Giuseppina Borsci*

17.10 Mechanistic modelling of radiation-therapy damage to microvasculature and its effect on tissue surrounding tumour. *Alessandro Cicchetti*

17.30 The challenge of ultra high dose rate sources in radiotherapy: perspectives of the plasma focus technology. *Cristina Garibaldi*

17.50 Compilazione del questionario ECM e chiusura del Corso

ELENCO POSTER

1-Simulation by FLUKA of the self-activation of a cyclotron IBA Cyclone 18. *Simone Manenti*

3-Temperature rise measurements in 1,5 T MR clinical system due to metallic dental implants. *Paola Nocera*

5-B-RAD: a radiation survey meter operating in intense magnetic field. *Marco Silari*

6-Outcome prediction in comatose post Cardio-Circulatory Arrest patients by Apparent Diffusion Maps automatic analysis. *Lisa Milan*

8-Small animal irradiator dosimetry using radioluminescence imaging. *Antonello Spinelli*

9-T-cell tracking using Cerenkov and radioluminescnece imaging. *Antonello Spinelli*

11-Dependence of gafchromic film sensitivity on radiation let and proposed method to amend the measured dose images. *Grazia Gambarini*

13-Investigation of the heating and relaxometric efficiency of Magnetic Nanoparticles for biomedical applications. *Matteo Avolio*

15-Modeling early tumor regression during neo-adiuvant radio-chemotherapy: potential for therapy individualization. *Claudio Fiorino*

16-Knowledge-based automatic plan optimization of adaptive radiotherapy for rectal cancer. *Roberta Castriconi*

19-Magnetic Nanoparticles and their multifunctional modalities. *Francesca Brero*

20-Yb-doped silica optical fibers for dosimetry in radiotherapy. *Eleonora Mones*

21-Fricke gels based on pva-gta for dosimetry in radiation therapy. *Salvatore Gallo*

22-Texture analysis on ct imaging: issues related to reconstruction and pre-processing parameters. *Francesca Calderoni*

23-Computational model of cell cycle and its perturbation after exposure to X-rays validated in vitro using fibroblasts. *Leonardo Lonati*

24-Nuclear reactions modeling for theranostics and multi-modal imaging. *Andrea Fontana*

26-Bianca:A Biophysical model for rbe predictions along hadron therapy beams. *Marco Carante*

28-The Infn 3CaTS Project: towards a real time dose monitoring in bNCT through a CdZn Te SPECT. *Nicoletta Protti*

29-Analysis of MRI T1 and T1 and T2 relazation times dependence from scanners and software at 1,5 T. *Davide Cicolari*

32-Predictive model of the dose to the heart based on geometry evaluation in left breast radiotherapy. *Stefano Tomatis*

33-Texture analysis on ct imaging: impact of inter-reader contouring variability. *Francesco Rizzetto*

35-MRI-ONLY in prostate radiotherapy planning using multiple individual atlases: a preliminary study on 1,5t scanner. *Stefania Nici*

36-Molecula MRI to longitudinally monitor endothelial activation in experimental traumatic brai injury. *Edoardo Micotti*

37-A sparse regularization strategy for robust Attenuation Correction in PET/MR. *Luca Presotto*

38-A-Priori selection of non-redundant radiomic feature: a clustering coherence-based approach. *Chiara Tenconi*

39-Evaluation of a laterality index for presurgical assesmant of patients with drug-resistant epilepsy. *Marco Felise*

42-Time evolution of NMR spin-spin relaxation time on corpe's hematic molecles. *Paolo Arosio*

43-Validation of a 4D monte Carlo oprimazation and planning feature for CyberKnife lung treatment. *Sara Trivellato*

44-Attenuaation Correction in PET/MR: Generation of Pseudo-CT from MR images by Deep Convolutional Neural Network. *Matteo Bagnalasta*

45-Mouse bladder irradiation with a image guided irradiator and post-treatment evaluation of bladder inflammation. *Tiziana Rancati*

46-Introducing information on gut microbiota into toxicity modeling:preliminary results from a trial. *Tiziana Rancati*

47-Probabilistic fiber tarking in stereotactic radiosurgery planning with GammaKnife: a case report. *Luca Berta*

48-A 10-Years collaboration in the development and clinical application of dosimeters in brachytherapy. *Mauro Carrara*

50-Evaluation of a medel based dose calculation algorithm in gynecological hdr brachytherapy. *Paolo Caricato*

51-Dose-effect for late urinary toxicities after prostate cancer radiotherapy: results from a prospective cohort study. *Tiziana Rancati*

52-Integrated opto-magnetic platform for biosensing application. *Piero Borga*

53-Variable flip angle and inversion recovery bSSFP 2D mapping in less than 30s for T1, T2: comparison with the gold standard. *Paolo Dicarolo*

55-Localization uncertainties in robotic radiosurgery: a retrospective study focused on 1-view lung treatments. *Andrea Bresolin*

56-Design of a boron neutron capture therapy irradiation room based on proton accelerator be target. *Chiara Magni*

57-Threshold dose for focal liver reaction. *Cristian Toraci*

58-CT-numer-to-density curve depedence in dose calculation: a tomotherapy planned adaptive case study. *Francesca Emiro*

59-3T paediatric pulmonary ventilation and perfusion maps with fourier decomposition: a feasibility study. *Antonio Ciccarone*

60-Production of non conventional radionuclides by particle accelerators for theranostic applications. *Flavia Groppi*

INFORMAZIONI

Sede del corso
Sala C03 – Università degli studi di Milano - Via Mangiagalli 25 – Milano

Quota di partecipazione
Evento gratuito

Procedura di iscrizione e modalità di pagamento
Il corso sarà accreditato per 80 persone (capienza sala: 250 posti). Sarà possibile ottenere maggiori informazioni sull'evento e accedere al modulo elettronico di registrazione consultando il sito AIFM all'indirizzo *www.aifm.it*. Le richieste di iscrizione saranno accettate secondo l'ordine cronologico di arrivo. Gli eventuali esclusi saranno inseriti in una lista d'attesa.

ATTESTATO DI PARTECIPAZIONE
Un attestato di partecipazione, non valido ai fini ECM, sarà rilasciato al termine del Workshop.

SPONSOR
Si ringrazia per il contributo non condizionante:

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Per ulteriori informazioni e iscrizioni : *www.fisicamedica.it/formazione*