International School of Bioelectromagnetism “Alessandro Chiabrera”

IX Course - Possible biomedical applications of EMFs to cancer: from Biology and in silico to clinical perspectives

(Erice, March 24 - 30, 2019)

PROGRAMME

March 24 – Sunday

Arrival and accommodation

March 25 – Monday

10.00 - 10.30 - Introduction to the Course by the Directors

PHYSICAL PRINCIPLES OF EMF

10.30 – 11.30 - EMF spectrum and general properties – Ferdinando Bersani (Bologna, Italy)
11.30 – 12.30 - ELF generation and dosimetry – Stefania Romeo (Naples, Italy)
12.30 – 14.30 - Lunch
14.30 – 15.30 - RF generation and dosimetry – Rita Massa (Naples, Italy)
15.30 – 17.00 - Thermal and non-thermal effects of ELF and RF – Stefania Romeo (Naples, Italy)
Coffee break - 17.00 -17.30

BIOLOGICAL EFFECTS OF EMF IN RELATION TO CANCER

17.30 – 18.30 - Introduction to biology of cancer - Maja Cemazar (Ljubljana, Slovenia)

Biological effects in vitro
18.30 – 19.30 - Static and ELF fields – Mats Olof Mattsson (Östersund, Sweden)

March 26 – Tuesday

Biological effects in vitro (cont.)
8.30 - 9.30 - High frequency EMF – Maria Rosaria Scarfi (Naples, Italy)
Biological effects in vivo
9.30 - 10.30 - Static and ELF fields – Isabelle Lagroye (Bordeaux, France)
Coffee break 10.30 - 11.00
11.00 - 12.00 - High frequency EMF – Isabelle Lagroye (Bordeaux, France)
12.00 - 13.00 - What is learnt from epidemiology- Anke Huss (Utrecht, the Netherlands)
Lunch 13.00 – 15.00
15.00 – 16.00 - Seminar: Dielectric properties of healthy and cancerous tissues – Lourdes Farrugia (Malta)

Methodological problems in Bioelectromagnetics
16.00 – 17.00 - General criteria for a good experimental practice in Bioelectromagnetics – biology – Maria Rosaria Scarfi (Naples, Italy)
Coffee break 17.00 - 17.30
17.30 – 18.30 - General criteria for a good experimental practice in Bioelectromagnetics – electromagnetic - Rita Massa (Naples, Italy)

March 27 – Wednesday

EMFs IN DIAGNOSIS
8.30 - 10.30 - Microwave imaging and its application in cancer diagnosis - Emily Porter
Coffee break 10.30 - 11.00
11.00 – 12.00 - Imaging with Terahertz and MMW – speaker to be confirmed
12.00 – 13.00 - seminar: COST Action "MyWave" Lourdes Farrugia (Malta)
Lunch 13.00 – 15.00

THERAPEUTIC APPLICATIONS: RESULTS AND PERSPECTIVES

Thermal effects: therapeutic perspectives
15.00 – 16.00 - Hyperthermia - Gerard van Rhoon (Rotterdam, The Netherlands)
16.00 – 17.00 - Thermal ablation – Luigi Solbiati (Milan, Italy)
17.00 – 18.30 - Coffee break and Poster section

March 28 – Thursday

THERAPEUTIC APPLICATIONS: RESULTS AND PERSPECTIVES (Cont.)

Electroporation and electrochemotherapy
8.30 – 9.30 - Preclinical and clinical aspects of electrochemotherapy – Gregor Sersa (Ljubljana, Slovenia)
9.30 – 10.30 - Immunological principles of combined treatment with electrochemotherapy - Emanuela Signori (Rome, Italy)
Coffee break 10.30 – 11.00
11.00 – 12.00 - New clinical developments in electrochemotherapy – July Gehl (Copenhagen, Denmark)
12.00 – 14.00 - Lunch

IN SILICO MODELING

Modeling and treatment planning for therapies of cancer
14.00 – 15.00 - Hyperthermia – Theodoros Samaras (Thessaloniki, Greece)
15.00 – 16.00 - Ablative techniques - Theodoros Samaras (Thessaloniki, Greece)
16.00 – 17.00 - Modelling and treatment planning for Electrochemotherapy - Bor Kos (Ljubljana, Slovenia)
Coffee break 17.00 – 17.30

Emergent biological effects of EMFs in relation to therapy
17.30 – 18.30 - Low frequencies - Mats Olof Mattson (Östersund, Sweden)
18.30 – 19.30 - High frequencies - Maria Rosaria Scarfi (Naples, Italy)

March 29 – Friday
Touristic tour

March 30 - Saturday

RECENT PERSPECTIVES OF PMF IN RELATION TO CANCER THERAPY

8.30 – 9.30 - PEMF and cancer cells: in vitro effects – Ruggero Cadossi (Modena, Italy)
9.30 – 10.30 - The long road to validate PEMF use in cancer patients – Ruggero Cadossi (Modena, Italy)
Coffee break 10.30 – 11.00
11.00 – 12.00 - Devices on the market: a critical overview (seminar)- Ferdinando Bersani (Bologna, Italy)

Round table on Future perspectives in diagnosis and therapy

Conclusions-END (Saturday, about 13.30 am)