

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" *Lourdess 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)