



COST ACTION CA 17140

NANO2CLINIC

CANCER NANOMEDICINE - FROM THE
BENCH TO THE BEDSIDE

2nd CA17140 STSM VIRTUAL CONFERENCE

PROGRAMME

**February 23, 2023
CET Time**

Opening (09:00-09:15)

Presenters: Sabrina Pricl (Action Chair); Maria Francesca Ottaviani (Grant Awarding Coordinator)

Preclinical studies of nanodrugs Part I (09:15 – 10:45)

- **Session chair: Mariangela Garofalo**

09:15 – 09:30 Short oral

O.L. Gobbo, S. Xanthopoulos and P. Bouziotis

In vivo tracking of Clathrin nanoparticles radiolabelled with Technetium-99m and Gallium-68

09:30 – 09:45 Short oral

A.Baião, F. Castro, C. Oliveira, R. Meel, and B. Sarmento

CD44v6-Targeted Chemotherapeutic Nanosystem Combined with Immunotherapy for Colorectal Cancer

09:45 – 10:00 Short oral

A. Apostolopoulou, P. Bouziotis and P. Koźmiński

Synthesis and characterization of Gold Nanoparticles and synthesis of a DOTA-derivative for the development of a novel cancer theranostic agent

10:00 – 10:15 Short oral

M.A. Karageorgou, Marija Mirković, S. Vranješ-Djurić, E. Stiliaris, P. Bouziotis and D. Stamopoulos

Technetium-99m labeled iron oxide nanoparticles coated with 2,3-dicarboxypropane-1,1-diphosphonic acid as a potential dual-modality SPECT/MR contrast agent

10:15 – 10:45 Short orals

M. Garofalo, M. Wieczorek, I. Anders, M. Staniszewska, S. Salmaso, P. Caliceti, B. Rinner, K. Pancer and L. Kuryk

Oncolytic adenovirus Ad5/3-D24-ICOSL-CD40L as a novel strategy for mesothelioma therapy – Part I

M. Garofalo, M. Wieczorek, I. Anders, M. Staniszewska, P. Caliceti¹, B. Rinner, K. Pancer and L. Kuryk

Novel oncolytic adenovirus Ad5/3-D24-ICOSL-CD40L co-administered with anti-PD-1 exhibits anti-cancer effect in H226 humanized mesothelioma model – Part II

Physico-chemical characterization of nanodrugs Part I (10:45-12:00)

- Session chair: Vlad Ursachi

10:45 – 11:00 Short oral

S. Çitoğlu, S. Adhikari, L. D. Tung, N. T.K. Thanh

Synthesis of Magnetic Nanoparticles for Application in Anticancer Drug Delivery

11:00 – 11:15 Short oral

B.-E.-B. Cretu, K. Tadevosyan, A. Raya, G. Dodi

Magnetic nanosystems interactions with human induced pluripotent stem cells

11:15 – 11:45 Short oral

G. Stati, F. Rossi, T. Trakoolwilaiwan, L. D. Tung, S. Mourdikoudis, N. T. K. Thanh and R. D. Pietro

Innovative ophthalmic formulation for the prevention and treatment of pterygium and other related disease

11:45 – 12:00 Short oral

K. Sztandera, M. Gorzkiewicz X. Wang, S. Boye, D. Appelhans, B. Klajnert-Maculewicz

Study on Rose Bengal/polymersome and luciferase/polymersome hybrid structures

Preclinical studies of nanodrugs Part II (12:00 – 13:30)

- Session chair: **Fernando Torres Andon**

12:00 – 12:30 Short orals

M. Garofalo, D. Albino, G. M. Carbone, C. V. Catapano

Extracellular vesicles as a next-generation drug delivery vehicles for precision cancer treatment

M. Garofalo, K. W. Pancer, M.a Wieczorek, M. Staniszewska, S. Salmaso, P. Caliceti1, L. Kuryk

Light up a fire inside the tumor by combining oncolytic viruses with immune-checkpoint inhibitors

12:30 – 12:45 Short oral

D. Manzanares, C. de la Torre, M. Rucins, K. Pajuste, A. Plotniece and V. Ceña

Modification of dihydropyridine-based nanoparticles to enhance siRNA and drug delivery to glioblastoma cells.

12:45 – 13:15 Short orals

C. Martins, C. Günday, C. Pacheco, C. Moreira-Barbosa, Â. Marques-Magalhãe, S. Dias, M. Araújo, M. J. Oliveira, N. Günday-Türeli and B. Sarmento

Scale-up manufacturing of docetaxel-loaded polymeric nanoparticles for targeted cancer chemotherapy

C. Martins, M. Araújo, A. Malfanti, C. P. Araújo, S. J. Smith, B. Ucakar, R. Rahman, J. W. Aylott, V. Préat, D. Lamprou and B. Sarmento

Exploiting the usefulness of microfluidic devices to manufacture novel systems in the field of cancer nanomedicine

13:15 – 13:30 Short oral

S. Michlewska, M. Absenger-Novak, E. Fröhlich, and A. Robaszkiewicz

Quantification of poly(aneuploid cells with confocal imaging

Preclinical studies of nanodrugs Part III (13:30 – 15:00)

- Session chair: Cláudia Martins

13:30 – 14:00 Plenary lecture

Fernando Torres Andon

Nanomedicines to target and reprogram tumor associated macrophages

14:00 – 14:30 Short orals

N. Fernández-Bertólez, F. Brandao, C. Costa, A. Touzani, E. Pásaro, J.P. Teixeira, B. Laffon and V. Valdiglesias

Evaluation and validation of the suitability of the standardised in vitro mammalian cell Micronucleus (MN) test (OECD TG No. 487) for testing genotoxicity of nanodrugs with potential use in cancer nanomedicine

N. Fernández-Bertólez, A. Touzani, L. Martínez, A.T. Reis, S. Fraga, J.P. Teixeira, C. Costa, E. Pásaro, B. Laffon, V. Valdiglesias

Biocompatibility evaluation of CeO₂ nanoparticles to be employed as nanodrugs in brain cancer nanomedicine

14:30 – 14:45 Short oral

A. P. Stavropoulou, E. K. Efthimiadou, P. Rocchi

Synthesis and biological evaluation of hybrid gold nanoparticles conjugated with an Anti-Sense Oligonucleotide

14:45 – 15:00 Short oral

K. Źelechowska-Matysiak, E. Salvanou, P. Bouziotis, A. Majkowska-Pilip

DOX-PEG-198AuNPs-PEG-Tmab - multimodal radiobioconjugate for targeted radionuclide therapy of HER2+ cancers

Physico-chemical characterization of nanodrugs Part II (15:00-16:30)

- Session chair: Giovanna Lollo

15:0 – 15:30 Plenary lecture

Bruno Sarmento

From nanoparticle mucodiffusion to receptor-mediated transcytosis, all aboard to fight colorectal cancer

15:30 – 15:45 Short oral

C. Pacheco, R. Daware, A. Motta, A. Koikalethu, F. Lorenzi, A.M. Sofias, F. Baltazar, B.M. Costa, T. Lammers, and B. Sarmento

*How CD147-specific nanomedicines end: from target engagement in 2D towards validation using a novel vascularized *in vitro* glioblastoma model*

15:45 – 16:00 Short oral

I. Petrova-Doycheva

Risk-benefit analysis of nano(bio)materials used in medical applications

16:00 – 16:15 Short oral

F. Sousa, A. Cruz, F. J. Ferreira, J. Bessa, B. Sarmento, I. Mendes Pinto

Nanoencapsulated Bevacizumab Inhibits Glioblastoma Vascularization via Intratumoral VEGF Trapping

16:15 – 16:30 Short oral

A. Tintaru, E. Laurini, A. Muselli and S. Prich

Cancer Nanomedicine via Dendrimers Nanocarriers

Physico-chemical characterization of nanodrugs Part III (16:30-16:45)

- **Session chair: Catarina Pacheco**

16:30 – 16:45 Short oral

V. Andretto, M. Repellin, H. Zhang, K. Remaut, I. S. Keil, F. Vascotto, K. C. Walzer, U. Sahin, H. Haas, D. Kryza and G. Lollo

Stability study of mRNA-hybrid lipid nanoparticles in biological medium using fluorescence correlation spectroscopy

Manufacturing nanodrugs (16:45-18:15)

- **Session chair: Bianca Cretu**

16:45 – 17:00 Short oral

F. Mendes, N. Sanz de Olmo, J. S. J. Garcia, M. Malkoch and H. Tomás

Synthesis of Cisplatin loaded Polyester-based dendritic structures for the targeted treatment of Osteosarcoma

17:00 – 17:15 Short oral

M. Lasak, K. Ciepluch, A. Fahmi and V.P. Nirwan

Synthesis and characterization of nanofibers functionalized with nanoparticles with anticancer properties

17:15 – 17:30 Short oral

T. Piotr, B. Klajnert-Maculewicz, A. Janaszewska, T. Strašák and M. Müllerová

Evaluation of cationic carbosilane dendrimers as nanovectors of therapeutic nucleic acids for cancer nanomedicine

17:30 – 17:45 Short oral

J. Lopes-Nunes, C. Nastruzzi and C. Cruz

Production of aptamer-guided liposomes for head and neck cancer treatment

17:45 – 18:00 Short oral

B. Özkahraman, L. Storozhuk, N. T. K. Thanh

pH responsive iron oxide nanoflower (IONFs) incorporated chitosan nanogels for cancer treatment

18:00 – 18:15 Short oral

J. R. Ruiz, F. J. Mata, S. García-Gallego and G. Varchi

Carbosilane dendritic hydrogels for sustained drug release

Physico-chemical characterization of nanodrugs Part III (18:15-19:30)

- Session chair: Catarina Pacheco

18:15 – 18:30 Short oral

V.C. Ursachi, G. Dodi, S. Cordeiro, A.R. Fernandes, V. Balan

Functionalized chitosan based magnetic nanoparticles with potential in cancer therapy applications: physio-chemical characterization and biological studies

18:30 – 18:45 Short oral

L. Storozhuk, O. Sandre and N.T.K. Thanh

Iron Oxide Nanoflowers for Magnetic Hyperthermia Cancer Therapy

18:45 – 19:00 Short oral

E. Tomaszewska, D. Wróbel, K. Ranoszek-Soliwoda, K. Bednarczyk, G. Celichowski and J. Grobelny

Preparation and characterization of functional metallic nanoparticles as potential drug delivery systems

19:00 – 19:15 Short oral

N. Kalčec, A. Ljulj, L. Božičević, V. Vrček, D. Marson, S. Pricl, F. Separovic, R. Prassl and I. V. Vrček

Transformations of L-DOPA during the synthesis of gold-based nanodelivery systems for LAT-1 targeting

19:15 – 19:30 Short oral

N. Peranić, M. Loparić, I. Vinković Vrček

Nanomechanical tool for characterization of cellular immune response

Closure (19:30 – 19:45)

Presenters: Sabrina Pricl, Maria Francesca Ottaviani