

ABSTRACT BOOK



**4th Balkan Congress
of Nuclear Medicine**

Ohrid 2015



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MACEDONIAN ASSOCIATION OF NUCLEAR MEDICINE

WITH CONTRIBUTION

European Association of Nuclear Medicine & European School of Nuclear Medicine
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Institut Francais, Skopje
World Association for Radionuclide Molecular Therapy

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INVITED LECTORS

Clinical applications of 18F-fluorocholine: current status and potential future applications

JN TALBOT

Médecine Nucléaire, Hôpital Tenon,
AP-HP & Université Pierre et Marie Curie, Paris

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So you want to buy a PET-MR

Prof John Buscombe

Cambridge University Hospitals, Cambridge

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Contribution of PET scan in treatment

Vassilios Prassopoulos

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A. GEORGIEV, V. SIRAKOV, M. STOEVA, K. VELKOVA

Medical University - Plovdiv

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Incorporating PET/CT Imaging in Radiation Oncology Treatment Delivery

Roberto Delgado-Bolton¹ and Adriana K. Calapaquí-Terán²

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PET in Lung Cancer

Roberto Delgado-Bolton, Logroño

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M.P.M. Stokkel, NKI-AVL, Amsterdam

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M.P.M. Stokkel, NKI-AVL, Amsterdam

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Cornelis A. Hoefnagel, Amsterdam

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E. Piperkova

National Oncology University Hospital Center-SHATO, Clinic of Nuclear Medicine, Sofia

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R Mititelu

Dept of Nuclear Medicine

Central University Emergency Military Hospital, Bucharest

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BOZKURT MF, M.D., F.E.B.N.M.

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Myocardial perfusion SPECT imaging in abnormal ventricular conduction

Rimbu A^{1,2}

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H.J. Biersack, Bonn

F.F. Knapp, Oak Ridge

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ROLE OF SPECT-CT IN DIAGNOSIS AND DIFFERENTIATION DIAGNOSIS OF BONE METASTASES

S.Sergieva

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Read the small letters of the Guidelines for ablation therapy and apply them to the patients. Size does not always matters.

SavvasFrangos MD, FEBNM, Nuclear Medicine Specialist

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Ajdinovic B

Military Academy, Belgrade

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Amela Begic, Clinic for Nuclear Medicine Clinical Centre, University Hospital Sarajevo, Sarajevo

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Zlotarevski L⁴, Ajdinovic B¹, Novakovic M²

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Dimcheva M, Sergieva S, Jovanovska A

Department of Nuclear Medicine, Sofia Cancer Center, Sofia

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Doina Piciu

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Seyfettin Ilgan, MD

Parathyroid Imaging

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Gamma Probe Guided Parathyroidectomy

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Miladinova D. MD PhD, Stefanova M. MD MSc

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Prognostic importance of SPECT MPI

Venjamin Majstorov

Institute of Pathophysiology and Nuclear Medicine, Medical Faculty, University Ss'
Cyril and Methodius, Skopje

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**Thyroid ultrasound-basic considerations, US features of benign thyroid diseases and
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Venjamin Majstorov

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**LUTETIUM-177 LABELED RITUXIMAB : OPENED GATEWAY TO BETTER
RADIOIMMUNOTHERAPY**

Smilkov Katarina¹, Gorgieva Ackova Darinka¹, Janevik Ivanovska Emilija¹, Chinol
Marco², Carolo Angela², Gjorgoski Icko³

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PET RADIOPHARMACEUTICALS IN ONCOLOGY - NEW CHALLENGES IN THE NEW FACILITY

Emilija Janevik-Ivanovska

Faculty of Medical Sciences, Goce Delcev University Stip

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RADIONUCLIDE ANTIBODY-CONJUGATES: DEVELOPMENTS AND APPLICATIONS TO OBTAIN A TARGETED CANCER THERAPY

Gjorgieva Ackova Darinka¹, Smilkov Katarina¹, Petre Makreski², Trajče Stafilov², Duatti Adriano³, Janevik-Ivanovska Emilija¹

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³Department of Chemical and Pharmaceutical Sciences, University of Ferrara, Ferrara

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Riemer H..A. Slart, MD, PhD

Nuclear Medicine Physician, staff member of the department of Nuclear Medicine and Molecular Imaging, University Medical Center Groningen

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Management of juvenile differentiated thyroid carcinoma: 37-years experience in Serbia

Jasna Mihailovic

Department of nuclear medicine,
Oncology Institute of Vojvodina, Sremska Kamenica

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How a technologist need to be prepared for a congress

C. Pestean, Cluj Napoka

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SPECT/CT Imaging: instrumentation Development

S. Rep, L. Ležaić

Department for Nuclear Medicine,
University Medical Centre Ljubljana

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Parathyroid Imaging

S. Rep, L. Ležaić

Department for Nuclear Medicine,
University Medical Centre Ljubljana,

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CLINICAL PROTOCOL OF SPECT-CT BONE SCAN

Jovanovska A, Dimcheva M, Sergieva S

Department of Nuclear Medicine, Sofia Cancer Center, Sofia

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OCCUPATIONAL EXPOSURE IN PET/CT DIAGNOSTICS: WHOLE BODY AND EXTREMITY DOSES

Antic V.^{1,2}, Ciraj-Bjelac O.^{2,3}, Stankovic J.^{2,3}, Arandjic D.^{2,3}, Bozovic P.^{2,3}

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THE BENEFITS OF ISO/IEC 17025 ACCREDITATION OF RADIOPHARMACY LABORATORY

Apostolova Paulina, Sterjova Marija, Smilkov Katarina, Gorgieva Ackova Darinka, Delipetrevka Katarina, Janevik Ivanovska Emilija

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Marija Atanasova, Maja Jancovska, Katerina Kolevska, Maja Velickovska, Filip Jolevski, Emilija Janevik-Ivanovska

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QUALITY CONTROL OF PET RADIOPHARMACEUTICALS, AN IMPERATIVE FOR SUCCESSFUL CLINICAL OUTCOMES

Maja Velickovska, Filip Jolevski, Marija Atanasova, Maja Jancovska, Katerina Kolevska, Emilija Janevik-Ivanovska

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THE NEED OF RADIOPHARMACY IN NUCLEAR MEDICINE DEPARTMENTS: AFRICAN EXPERIENCE

Joel Munene Muchira^{1,3}, David Mwanza Wanjeh^{1,3}, Aschalew Alemu^{2,3}, Emilija Janevik-Ivanovska

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The image features a dark, grainy, black background. On the right side, there is a white triangle pointing towards the center. The text "INVITED LECTURES" is printed in a bold, white, sans-serif font across the middle of the image.

INVITED LECTURES

RADIONUCLIDE ANTIBODY-CONJUGATES: DEVELOPMENTS AND APPLICATIONS TO OBTAIN A TARGETED CANCER THERAPY

Gjorgieva Ackova Darinka¹, Smilkov Katarina¹, Petre Makreski², Trajče Stafilov², Duatti Adriano³, Janevik-Ivanovska Emilija¹

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Understanding the behaviour and function of biomolecules at the molecular level is key to the discovery and development of new drugs, as well as diagnostic techniques. The characterization of therapeutic monoclonal antibodies (mAbs) poses many challenges compared to those of low-molecular mass drugs because of their inherent complexity due to their protein nature. Achievements in this field of science have changed the way that drugs are being designed and developed nowadays. Vibrational spectroscopy techniques, like Fourier Transform Infrared (FTIR) spectroscopy and Raman spectroscopy (RS) have helped to determine the secondary structure of complex protein molecules, as well as protein-ligand complexes. Other advantages of these techniques include the need of very low sample concentration and the ease of sample preparation. Therefore, they are gaining growing importance in the field of medicine and pharmacology.

Our group has demonstrated the use of these tools to understand protein-ligand interactions in therapeutically important mAb, rituximab, conjugated with three different bifunctional chelating agents (*p*-SCN-Bn-DOTA, *p*-SCN-Bn-DTPA and 1B4M-DTPA) with no available structural information of obtained complexes. A special interest was directed to the secondary structure of the antibody. In spite of the fact that Raman spectra show characteristic fingerprints which can be used for molecular identification, we detected the most important protein groups, and noted the α -helix and the β -sheet structures in the molecule.

The high-throughput approach presented here has significant potential for analyzing the stability of biotherapeutics as well as any other biological molecules which are used as anti-cancer therapeutic drugs.

