



GOCE DELCEV UNIVERSITY - STIP
FACULTY OF MEDICAL SCIENCES



International symposium at
Faculty of medical sciences

CURRENT ACHIEVEMENTS AND FUTURE PERSPECTIVES IN MEDICAL AND BIOMEDICAL RESEARCH



STIP, 24 NOVEMBER 2015
MULTIMEDIA CENTRE – UGD, STIP

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES
“Current achievements and future perspectives in medical and biomedical research”

SCIENTIFIC PROGRAM

November 24, 2015 - Stip

8:30 – 9:00

Registration

9:00 – 9:15

Rector / Vice rector/Dean

SESSION 1

Chair: Prof. Emilija Janevik Ivanovska

Co-chair: Ass. Prof. Elena Drakalska

9:15 – 9:35

Ass. Marija Darkovska Serafimovska
Macedonian agency of drug and medical
devices, Director
University Goce Delcev Stip
Republic of Macedonia

Step forward of Macedonian agency for medicines and medical devices, establishment and strategic plan for development

9:35 – 9:55

Assoc. Prof. Zorica Arsovska Sarafinovska
Institute of Public Health of the
Republic of Macedonia, Skopje,
University Goce Delcev Stip
Republic of Macedonia

Adherence to Therapy: A Modern Pharmacotherapeutic Approach

9:55 – 10:15

Prof. Biljana Gjorgjeska
University Goce Delcev Stip
Republic of Macedonia

Use of disinfectants and antiseptics in selected health institutions in Republic of Macedonia

10:15 – 10:35

Assoc. Prof. Bistra Angelovska
University Goce Delcev Stip
President of Pharmaceutical Chamber
of Macedonia. Republic of Macedonia

Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia

10:40 – 11:10

Coffee break

Poster presentation

Chair: Prof. Milka Zdravkovska
Co-chair: Ass. Prof. Darinka Gjorgieva Ackova

10:10 – 11:50

Prof. Neven Zarkovic
Rudjer Boskovic Institute, Croatia

4-Hydroxynonenal – major bioactive marker of lipid peroxidation

11:50 – 12:10

Assoc. Prof. Tatjana Ruskovska University
Goce Delcev Stip Republic of Macedonia

Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes

12:10 – 12:30

Prof. Rubin Gulaboski University
Goce Delcev Stip Republic of Macedonia

New insights into the chemistry and functions of Coenzyme Q

12:30 – 12:50

Assoc. Prof. Darko Bosnakovski
University Goce Delcev Stip
Republic of Macedonia

Genetically modified systems to study muscular dystrophies

12:50 – 14:00

Coffee break

Poster presentation

Chair: Assoc. Prof. Cena Dimova
Co-chair: Ass. Prof. Nevenka Velickova

14:00 – 14:40	Prof. Lia Rimondini Università del Piemonte Orientale, Novara, Italy	<i>Counteracting microbial biofilm formation onto dental materials</i>
14:40 – 15:00	Prof. Elizabeta Zisovska Agency for Quality and Accreditation of Healthcare Institutions, Skopje, Republic of Macedonia	<i>The endless potential of the umbilical cord blood for investigation, research and treatment</i>
15:00 – 15:20	Ass. Misko Milev University Goce Delcev Stip Republic of Macedonia	<i>The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells</i>
15:20 – 15:40	Prof. Lence Miloseva University Goce Delcev Stip Republic of Macedonia	<i>Multiple predictive model for clinical and subclinical depression in adolescence</i>
15:40 – 16:00	Coffee break	Poster presentation

SESSION 4

Chair: Assoc. Prof. Darko Bosnakovski
Co-chair: Ass. Prof. Katarina Smilkov

16:00 – 16:40	Prof. Adriano Duatti University of Ferrara, Ferrara, Italy	<i>Molecular imaging and radionuclide therapy of prostate cancer</i>
16:40 – 17:00	Assoc. Prof. Vaso Taleski University Goce Delcev Stip Republic of Macedonia	<i>Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks</i>
17:00 – 17:20	Dr. Aleksandar Cvetkovski University Goce Delcev Stip Republic of Macedonia	<i>The role of molecular cocrystals in drug development</i>
17:20 – 17:40	Prof. Emilija Janevik Ivanovska University Goce Delcev Stip Republic of Macedonia	<i>Drug development based on radiolabeled antibodies</i>
17:40 – 18:00	Closing remarks	

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INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

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November 24, 2015 – Stip

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- 2. Adherence to Therapy: A Modern Pharmacotherapeutic Approach**
Author: Zorica Arsovska Sarafinovska
- 3. Use of disinfectants and antiseptics in selected health institutions in Republic of Macedonia**
Author: Biljana Gjorgjeska
- 4. Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia**
Author: Bistra Angelovska
- 5. 4-Hydroxynonenal – major bioactive marker of lipid peroxidation**
Authors: Neven Zarkovic, Kamelija Zarkovic
- 6. Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes**
Authors: Prof. Tatjana Ruskovska, David Bernlohr
- 7. New insights into the chemistry and functions of Coenzyme Q**
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- 13. Molecular Imaging and therapy with radionuclides of prostate cancer**
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- 14. Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks**
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- 15. The role of molecular cocrystals in drug development**
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- 16. Drug development based on radiolabeled antibodies**
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POSTER PRESENTATIONS

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- 2. Effect of kinesitherapy on physical activity in patient with Guillain-Barré syndrome**
Authors: Antoaneta Dimitrova, Kristin Petrova Grigorova, Daniela Lubenova, Danche Vasileva, Milena Nikolova;
- 3. Case Report :
Oligoasthenoteratozoospermia, treatment with acupuncture**
Authors: Jihe Zhu, Blagica Arsovska, Dance Vasileva, Andrijana Sterjovska-Aleksovska, Kristina Kozovska;
- 4. Treatment of cervical spondylosis with acupuncture**
Authors: Kristina Kozovska, Jihe Zhu, Blagica Arsovska, Andrijana Sterjovska-Aleksovska;
- 5. Effect of kinesitherapy on static and dynamic balance in patient after vertebro-basilar system stroke**
Authors: Milena Nikolova, Antoaneta Dimitrova, Danche Vasileva, Daniela Lubenova, Kristin Petrova Grigorova;
- 6. Malignant pleural effusions in lung cancer: the condition during the disease**
Authors: Marija Karakolevska-Ilova, Elena Simeonovska Joveva, Aleksandar Serafimov, Lidija Petrovska;
- 7. Systemic fungal infections in hematological malignancies**
Authors: Petar Kuzmanovski, Velo Markoski;
- 8. Morbidity and mortality of malignant neoplasms in Macedonia**
Authors: Viktorija Vukovikj, Velo Markoski;
- 9. Cognitive behavioral program in treating insomnia among elderly patients**
Authors: Kneginja Richter, Lence Miloseva, Guenter Niklewski, Anja Piehl;
- 10. Regulations and legal aspects in management of medical waste**
Authors: Biljana Shikoska, Cena Dimova, Gjorgji Schumanov;
- 11. Control of the psychiatric disorders in the Republic of Macedonia**
Authors: Leonid Ramov, Velo Markoski;
- 12. Monitoring of the renal function in Indometacin treated patients with rheumatoid arthritis**
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- 13. Incidence of breast cancer in Macedonia**
Authors: Dijana Stojanova, Velo Markoski;
- 14. HPV virus as a cause of cancer of the cervix in R.Macedonia**
Authors: Stefanija Joveva, Velo Markoski, Vaso Taleski;
- 15. Analysis of the Pap test results by age groups in the area of Kriva Palanka**
Authors: Robert Nikolovski, Kristina Denchovska, Goran Mladenovski, Velo Markovski;
- 16. Giant rhinophyma treated by excision and full thickness skin grafting**
Author: Emilija Lozanovska Doneva;
- 17. Incidence of patients with chronic renal failure in Skopje**
Authors: Simona Kamceva, Velo Markoski;
- 18. Calculation of effective dose to family members of patients with thyroid diseases**
Authors: Marina Zdravevska Kochovska, Emilija Janjevik Ivanovska, Meri Angeleska, Sasho Nikolovski, Zlatko Filipovski;

- 19. Contemporary Microbiological Diagnostic Tests for Rapid Identification and Detection of Resistance of Mycobacterium tuberculosis**
Authors: Oliver Taleski, Vaso Taleski;
- 20. Analysis of clinical features and complications in patients with β -thalassemia in the region of Strumica**
Authors: Silvana Sinokapovska, Cena Dimova;
- 21. Lymphoepithelioma : A case report**
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- 22. F-ra Capitulum Radii L.Dex. – A Case report**
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- 23. Patient with intracranial hemorrhage and arteriovenous malformation detected with transcranial color duplex sonography – case report**
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- 24. Hereditary supracondylar spur of the humerus: Case report**
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- 25. Prosthetic rehabilitation in patient with advanced degree of functional disorders (case report)**
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- 26. Marginal Implants Bone Loss – a Case Report**
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- 27. Ectodermal Dysplasia, a Case Report: Challenge for Prosthodontic Solution**
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- 28. Alveolar socket preservation and shaping using temporary prosthetic construction – cases presentation**
Authors: Nikola K. Gigovski, Vesna Korunovska- Stevkoska, Emilija Bajraktarova, Aneta Mijoska, Ana Radeska-Panovska, Ana Gigovska;
- 29. Porcelain veneers produced by refractory die method**
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- 30. Correlation of Two Different Local Hemostatic Modalities in Oral Surgery Patients with Oral Anticoagulants**
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- 31. Assessment of orthodontic treatment need among school children by using iotn (index of orthodontic treatment need)**
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- 35. Oral surgery treatment in the patients with combination syndrome**
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- 41. Determining normal tissue toxicity of non-radioactively Lu/Y-labeled rituximab-conjugates in rat animal model**
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- 42. Genetically Engineered Mouse Models For Human Pancreatic Cancer: A Review Of The KC, KPC And iKRas*P53* Models**
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- 50. Determination of active pharmaceutical ingredient – chloropyramine in dragées**
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- 51. Comparison of volatile aroma compounds between cultivated and spontaneous flowering stems of Sideritis scardica Griseb. from R. Macedonia**
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- 53. Development and validation of HPLC method for determination of flavonoids in herbal preparations**
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- 54. Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in Camellia sinensis teas**
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- 55. Determination of trace elements analyzed by atomic emission spectrometry with inductively coupled plasma (ICP-AES) in Matricaria chamomilla L. teas present on macedonian market**
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- 56. Human health risks from heavy metals via consumption of contaminated food**
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- 66. Cancer specific conjugated monoclonal antibodies for anticancer therapy**
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- 67. Accreditation of the Laboratory of Radiopharmacy – requested requirements or need of challenge**
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- 68. Quality control of PET radiopharmaceuticals, with reference to its specifics vs quality control of conventional pharmaceuticals**
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- 69. Production of [11C] Choline in The University Institute for PET – new perspective in diagnostics of prostate malignancy in R. of Macedonia**
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- 70. PET radiopharmaceuticals in the diagnosis of neurological diseases**
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- 71. Achievements and perspectives in formulation of stable immunoconjugate of the HER2-targeting trastuzumab – potential for rapid labelling with Gallium-68**
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Faculty of Medical Sciences

University Goce Delcev – Stip, Macedonia

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

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Contemporary Microbiological Diagnostic Tests for Rapid Identification and Detection of Resistance of *Mycobacterium tuberculosis*

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Abstract

Tuberculosis (TB) occurs in every part of the world as a top infectious disease killer. In 2014, 9.6 million cases and 1.5 million deaths (140 000 children) from TB were registered. Over 95% of TB deaths occur in developing countries.

The Millennium Development Goal target of halting and reversing the TB epidemic by 2015 has been met globally. TB incidence has fallen since 2000 and is now 18% lower, by an average of 1.5% per year. An estimated 43 million lives were saved through TB diagnosis and treatment between 2000 and 2014. Another Goal target is ending the TB epidemic by 2030.

According to WHO Director General, „Everyone with TB should have access to the innovative tools and services they need for rapid diagnosis, treatment and care. This is a matter of social justice, fundamental to our goal of universal health coverage”.

In cases of drug-susceptibility, TB is a treatable and curable disease with a standard six month protocol of four antimicrobial drugs. In some cases, extensively drug-resistant TB, XDR-TB, a form of multi-drug resistant TB with weak responds including the most effective second-line anti-TB drugs. About 480 000 people developed MDR-TB in the world in 2014.

Establishing, equipping, financing, and ensuring sustainability of appropriate laboratory networks are challenging, complex and expensive, but necessary for an effective response to the challenges of TB-HIV and drug-resistant TB (DR-TB) control.

Beside classical methods for isolation, identification and susceptibility testing, Reference laboratories introduce new, rapid methods.

New systems for isolation use selective, liquid media (BACTEC, MGIT), which enable final diagnosis in about two weeks.

In 2012, for the first time, rapid diagnostic test GeneExpert (based on molecular technics) was established in Republic of Macedonia. GeneXpert MTB/RIF is an automated, cartridge-based nucleic amplification assay for the simultaneous detection of TB and rifampicin resistance directly from sputum in under two hours.

As a result of use of contemporary standards for detection, treatment and prevention of TB included in the National program for TB control, in connection with realization of the Program for TB control financially supported with grant from the Global fund to fight against HIV/AIDS, TB and malaria, from 2002 to date number of new cases with TB in the Republic of Macedonia significantly decreased.

Keywords: Bactec MGIT, GenXpert, *Mycobacterium tuberculosis*, tuberculosis, resistance.