



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

www.ugd.edu.mk

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	

EDITOR IN CHIEF

Assoc. Prof. Darko Bosnakovski, University "Goce Delcev" Stip

INTERNATIONAL EDITORIAL BOARD

Prof. Rubin Gulaboski, University "Goce Delcev" Stip

Prof. Emilija Janevik Ivanovska, University "Goce Delcev" Stip

Assoc. Prof. Bistra Angelovska, University "Goce Delcev" Stip

Assoc. Prof. Tatjana Ruskovska, University "Goce Delcev" Stip

Prof. Milka Zdravkovska, University "Goce Delcev" Stip

Assoc. Prof. Cena Dimova, University "Goce Delcev" Stip

Prof. Biljana Gjorgjeska, University "Goce Delcev" Stip

Prof. Dr. Guenka Petrova, Medical university in Sofia, Bulgaria

Prof. Angel Galabov, Bulgarian Academy of Science, Bulgaria

Prof. Dr. Jörg Babin-Ebell, University of Marburg, Germany

Prof. Dr. Günter Niklewski, Paracelsus Medical University, Nuremberg, Germany

Prof. Ivan Bogeski, Saarland University, Germany

Prof. Markus Hoth, Saarland University, Germany

Peter Bossew, German Federal Office for Radiation Protection, Berlin, Germany

Assoc. Prof. Aleksandar Mitic, Faculty of medicine, University of Nis, Serbia

Prof. Dr. Lazar Ranin, University of Belgrade, School of medicine, Serbia

Prof. Dragan Petrovic, Faculty of Medicine, University of Nis, Serbia

Prof. Dr. Tatjana Vukosavljević-Gvozden, University of Belgrade, Belgrade, Serbia

Zora S. Zunic, University of Belgrade, Institute of Nuclear Sciences Vinca, Belgrade, Serbia

Prof. Teodor Traistaru, "Carol Davila" University of medicine and pharmacy, Bucharest, Romania

Prof. Dr. Alexandru Eugen Petre, "Carol Davila" University of medicine and pharmacy, Bucharest, Romania

Prof. Lia Rimondini, Università del Piemonte Orientale, Novara, Italy

Prof. Neven Zarkovic, "Rudjer Boskovic Institute", Zagreb Croatia

Prof. Asia Celebic, University of Zagreb, Croatia

Dr. sc. Milena Jadrijević-Mladar-Takač, Faculty of Pharmacy and Biochemistry, University of Zagreb, Croatia,

Prof. Fernanda Borges, University of Porto, Portugal

Jadwiga Mazur, Institute of Nuclear Physics Krakow, Poland

Prof. Istvan Szilard, University of Pec Medical School, Hungary

Prof. Adriano Duatti, University of Ferrara, Ferrara, Italy

Prof. Neil G. Hartman, Purdue University, USA

Prof. Kara Duncan Weatherman, Purdue University College of Pharmacy, West Lafayette, USA

Prof. David Bernlohr, Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota - Twin Cities, USA

Prof. Meera Venkatesh, International Atomic Energy Agency, IAEA, Vienna, Austria

Prof. Lajos Balogh, Faculty of Veterinary Medicine and Department of Isotopes Applications NIRR, Budapest, Hungary

Prof. Joao Osso Jr, International Atomic Energy Agency, IAEA, Vienna, Austria

Dr. Uday Bhonsle, International Atomic Energy Agency, IAEA, Vienna, Austria

Prof. Remo Guerrini, University of Ferrara Italy

Prof. Enzo Palmieri, University of Padua, Italy

Prof. Jean-Noel Talbot, AP-HP and University Pierre et Marie Curie, France

Prof. Philip Elsinga, University Medical Center Groningen, Netherlands

Dr. Sergei Nazarenko, North Estonia Medical Centre, Estonia

Prof. Ana Marusic, University of Split School of Medicine, Croatia

Prof. Urelija Rodin, University of Zagreb Medical School, Croatia,

Ahmed Novo, AKAZ, Bosnia and Herzegovina

LOCAL EDITORIAL BOARD

Prof. Lence Miloseva, University "Goce Delcev" Stip

Prof. Gorgi Sumanov, University "Goce Delcev" Stip

Assoc. Prof. Ivona Kovacevska, University "Goce Delcev" Stip

Assoc. Prof. Vaso Taleski, University "Goce Delcev" Stip

Assoc. Prof. Zdenka Stojanovska, University "Goce Delcev" Stip

Ass. Prof. Svetlana Jovevska, University "Goce Delcev" Stip

Ass. Prof. Nevenka Velickova, University "Goce Delcev" Stip

Ass. Prof. Velo Markovski, University "Goce Delcev" Stip

Ass. Prof. Kiro Papakoca, University "Goce Delcev" Stip

Ass. Prof. Lence Nikolovska, University "Goce Delcev" Stip

Ass. Prof. Elena Drakalska, University "Goce Delcev" Stip

Ass. Prof. Mire Spasov, University "Goce Delcev" Stip

Ass. Prof. Darinka Gorgieva Ackova, University "Goce Delcev" Stip

Ass. Prof. Katarina Smilkov, University "Goce Delcev" Stip

EDITORIAL STAFF

Milkica Janeva
Andonela Janeva

Tanja Janeva
Spase Stojanov
Mihail Aleksandrov

The organizers would like to acknowledge the support given from the University Goce Delcev- Stip and the Pharmaceutical chamber of Macedonia.

Gratitude is expressed to Alkaloid AD Skopje and Fitofarm for the financial support.

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

“Current achievements and future perspectives in medical and biomedical research”

November 24, 2015 – Stip

ORAL PRESENTATIONS

- 1. Step forward of Macedonian Agency for medicines and medical devices. Establishment and strategic plan for development**
Author: Marija Darkovska- Serafimovska
- 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**
Authors: Rubin Gulaboski, Valentin Mirceski, Ivan Bogeski, Sasa Mitrev, Kokoskarova Pavlinka, Velo Markovski, Reinhard Kappl, Markus Hoth
- 8. Genetically modified systems to study muscular dystrophies**
Author: Darko Bosnakovski
- 9. Counteracting microbial biofilm formation onto dental material**
Author: Lia Rimondini
- 10. The endless potential of the umbilical cord blood for investigation, research and treatment**
Author: Elizabeta Zisovska
- 11. The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells**
Authors: Misko Milev, Velickova N., Petrova B., Gorgieva P., Nedeljko B.,
- 12. Multiple predictive model for clinical and subclinical depression in adolescence**
Authors: Lence Miloseva, Tatjana Vukosavljevic-Gvozden
- 13. Molecular Imaging and therapy with radionuclides of prostate cancer**
Author: Adriano Duatti
- 14. Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks**
Authors: Vaso Taleski, Darko Bosnakovski, Milka Zdravkovska, Velo Markoski, Zdenka Stojanovska, Svetlana Jovevska
- 15. The role of molecular cocrystals in drug development**
Author: Aleksandar Cvetkovski
- 16. Drug development based on radiolabeled antibodies**
Author: Emilija Janevik-Ivanovska

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

“Current achievements and future perspectives in medical and biomedical research”

November 24, 2015 – Stip
POSTER PRESENTATIONS

- 1. Correlation between dynamic balance and gait parameters in patients with ischemic stroke in the chronic period**
Authors: Danche Vasileva, Daniela Lubenova, Marija Mihova, Ivan Maznev, Lence Nikolovska, Zhu Jihe;
- 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 vertebral 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**
Authors: Drita Yzeiri Havziu, M.Hiljadnikova-Bajro, T. Kadifkova Panovska;
- 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**
Authors: Vase Stojcheska, Rade Filipovski, Dobri Stoimenov, Nikica Atanasova, Goran Karaivanov, Ana Doneva, Irena Shulevska, Silvana Kraveva;
- 22. F-ra Capitulum Radii L.Dex. – A Case report**
Authors: Svetlana Jovevska, M.Idrizovikj;
- 23. Patient with intracranial hemorrhage and arteriovenous malformation detected with transcranial color duplex sonography – case report**
Authors: Elena Simeonovska Joveva, Marija Karakolevska-Ilova, Aleksandar Serafimov, Lidija Petrovska, Anita Arsovska;
- 24. Hereditary supracondylar spur of the humerus: Case report**
Authors: Strahil Todorov, Christian Lozanoski, George Zafirovski;
- 25. Prosthetic rehabilitation in patient with advanced degree of functional disorders (case report)**
Authors: Natasa Denkova, Katerina Zlatanovska, Ana Radeska-Panovska, Sanja Nashkova, Ivona Kovacevska;
- 26. Marginal Implants Bone Loss – a Case Report**
Authors: Kiro Papakoca, Ana Radeska-Panovska, Katerina Zlatanovska;
- 27. Ectodermal Dysplasia, a Case Report: Challenge for Prosthodontic Solution**
Authors: Emilija Bajraktarova Valjakova, Bajevska Jagoda, Vesna Korunoska Stevkovska, Biljana Kapusevska, Nikola Gigovski, Aneta Mijoska, Katerina Zlatanovska, Cvetanka Bajraktarova Mishevska;
- 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**
Authors: Katerina Zlatanovska, Julija Zarkova-Atanasova, Ana Radeska, Natasa Denkova, Kiro Papakoca;
- 30. Correlation of Two Different Local Hemostatic Modalities in Oral Surgery Patients with Oral Anticoagulants**
Author: Cena Dimova;
- 31. Assessment of orthodontic treatment need among school children by using iotn (index of orthodontic treatment need)**
Authors: Ana Radeska-Panovska, Kiro Papakoca, Natasa Denkova, Ivona Kovacevska, Katerina Zlatanovska;
- 32. Oral Hygiene Level Maintenance among Dental Medicine Students**
Authors: Darko Kochovski, Verica Toneva, Cena Dimova;
- 33. Poor oral hygiene and show of caries in 12 year old children**
Author: Sanja Naskova;
- 34. Implant-prosthetic therapy failure in smoker and nonsmoker patients**
Authors: Aneta Mijoska, Mirjana Popovska, Biljana Kapusevska, Nikola Gigovski, Vesna Korunovska- Stevkoska, Emilija Bajraktarova, Katerina Zlatanovska;
- 35. Oral surgery treatment in the patients with combination syndrome**
Authors: Vesna Korunoska-Stevkovska, Katerina Zlatanovska, Nikola Gigovski, Žaklina Menceva, Julijana Nikolovska, Emilija Bajraktarova-Valjakova, Aneta Mijoska;
- 36. Iatrogenic mistakes, cause for a failure at surgical treatment of a chronic periapical processes**
Authors: Sarita Kadrova, Cena Dimova;
- 37. Evaluation of Different Preparation of Artificial Teeth and Acrylate Prosthetic Base**
Authors: Pavle Apostoloski, Cena Dimova, Katerina Zlatanovska, Julija Zarkova;

- 38. Analysis of the dimensional stability of elastomeric silicone impression materials**
Authors: Galaba Veresa, Cena Dimova, Julijana Miloseva;
- 39. Use of gypsum into working everyday in dental technician**
Authors: Hadis Arslanov, Cena Dimova, Julija Vladikova, Pavle Apostoloski;
- 40. Mobile dental NOG-types used in working dental models**
Authors: Julija Vladikova, Cena Dimova, Hadis Arslanov, Pavle Apostoloski;
- 41. Determining normal tissue toxicity of non-radioactively Lu/Y-labeled rituximab-conjugates in rat animal model**
Authors: Darinka Gjorgieva Ackova, Katarina Smilkov, Icko Gjorgoski, Emilija Janevik-Ivanovska;
- 42. Genetically Engineered Mouse Models For Human Pancreatic Cancer: A Review Of The KC, KPC And iKRas*P53* Models**
Authors: David Mwanza Wanjeh, Joel Munene Muchira, Aschalew Alemu Marie, Darko Bosnakovski;
- 43. Mouse Models For Human Prostate Cancer: Xenograft Vs Genetically Engineered Mouse Model**
Authors: Aschalew Alemu Marie, Joel Munene Muchira, David Mwanza Wanjeh, Darko Bosnakovski;
- 44. HER2 Transgenic Mouse Models: A Way To HER2+ Breast Cancer Targeted Therapy**
Authors: Joel Munene Muchira, David Mwanza Wanjeh, Aschalew Alemu Marie, Darko Bosnakovski;
- 45. Types of scaffolds and thier application in bone tissue engineering**
Authors: Milena Volcheva, Darko Bosnakovski;
- 46. Significance of preparation of tissue samples for electron microscopy for observation and diagnosis**
Authors: Jovanka Laskova, Gordana Petrusevska, Darko Bosnakovski;
- 47. Design and characterization of nanoparticles as platforms for delivery of curcumin**
Authors: Elena Drakalaska, Denitsa Momekova, Stanislav Rangelov, Nikolay Lambov;
- 48. Freeze-drying approach to enhance antibody stability**
Authors: Katarina Smilkov, Darinka Gjorgieva Ackova, Emilija Janevik-Ivanovska;
- 49. An overview of phytosomes as a novel herbal drug delivery system**
Authors: Emilija Apostolova, Brankica Spaseska, Maja Simonoska Crcarevska, Maja Glavash Dodov, Renata Slaveska Raichki;
- 50. Determination of active pharmaceutical ingredient – chloropyramine in dragées**
Authors: Vesna Kostik, Biljana Gjorgjeska, Sofija Petkovska;
- 51. Comparison of volatile aroma compounds between cultivated and spontaneous flowering stems of Sideritis scardica Griseb. from R. Macedonia**
Authors: Bujar Qazimi, Gjoshe Stefkov, Marija Karapandzova, Ivana Cvetkovikj, Svetlana Kulevanova;
- 52. Bioactive compounds of cold-pressed oil from the seeds of Gojy Berry (Lycium barbarum)**
Author: Sanja Kostadinovik Velickovska;
- 53. Development and validation of HPLC method for determination of flavonoids in herbal preparations**
Authors: Tanja Janeva, Zorica Arsova-Sarafinovska;
- 54. Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in Camellia sinensis teas**
Authors: Dragica Doneva, Trajce Stafilov, Zorica Arsova-Sarafinovska, Katerina Starkoska, Maja Shishovska, Katerina Bačeva Andonovska;
- 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**
Authors: Dragica Doneva, Trajce Stafilov;
- 56. Human health risks from heavy metals via consumption of contaminated food**
Authors: Biljana Balabanova, Rubin Gulaboski;

- 57. Development of an ultrasonic method for effective extraction of capsaicin as a potent bioactive compound**
Authors: Viktorija Maksimova, Liljana Koleva Gudeva, Blaga Radovanovic, Rubin Gulaboski;
- 58. Electrochemical analysis of the properties of benzene-1,2,4-triol**
Authors: Milkica Janeva, Rubin Gulaboski;
- 59. Comparison of the procedure for registration of medicines in the European Union and the Republic of Macedonia**
Authors: Sofija Petkovska, Danica Zahkova, Biljana Gjorgjeska;
- 60. Pharmacoeconomic evaluation of the antibiotic prophylaxis in orthopedic surgeries**
Authors: Dijana Atanasova, Bistra Angelovska, Biljana Lazarova;
- 61. Therapeutic approach in the treatment of benign prostatic hyperplasia**
Authors: Rozeta Aceva, Zorica Arsova – Sarafinovska;
- 62. Oxidative stress, aging and antioxidants**
Authors: Viktorija Trajkoska, Zorica Arsova Sarafinovska;
- 63. Oxidative stress, oxidative DNA damage and prostate cancer**
Authors: Evgenija Nedelkoska, Zorica Arsova-Sarafinovska;
- 64. RNA interference (RNAi) mechanism as a basis for future successful treatment of chronic hepatitis B infection**
Authors: Ana Nikolova, Darko Bosnakovski;
- 65. Anti-cancer target therapy based on drugs conjugated to hyaluronic acid**
Authors: Marija Zafirova, Darko Bosnakovski;
- 66. Cancer specific conjugated monoclonal antibodies for anticancer therapy**
Authors: Daniela Todosiova, Darko Bosnakovski, Emilija Janevik Ivanovska;
- 67. Accreditation of the Laboratory of Radiopharmacy – requested requirements or need of challenge**
Authors: Apostolova Paulina, Delipetrev Katarina, Smilkov Katarina, Gjorgieva Ackova Darinka, Sterjova Marija, Janevik Ivanovska Emilija;
- 68. Quality control of PET radiopharmaceuticals, with reference to its specifics vs quality control of conventional pharmaceuticals**
Authors: Filip Jolevski, Maja Velickovska, Maja Chochevska, Marija Atanasova, Katerina Kolevska, Emilija Janevik-Ivanovska;
- 69. Production of [11C] Choline in The University Institute for PET – new perspective in diagnostics of prostate malignancy in R. of Macedonia**
Authors: Katerina Kolevska, Maja Chochevska, Marija Atanasova, Maja Velickovska, Filip Jolevski, Emilija Janevik-Ivanovska;
- 70. PET radiopharmaceuticals in the diagnosis of neurological diseases**
Authors: Marija Pandeva, Emilija Janevik-Ivanovska;
- 71. Achievements and perspectives in formulation of stable immunoconjugate of the HER2-targeting trastuzumab – potential for rapid labelling with Gallium-68**
Authors: Marija Sterjova, Predrag Dzodic, Katarina Smilkov, Darinka Gjorgieva-Ackova, Emilija Janevik-Ivanovska



Faculty of Medical Sciences

University Goce Delcev – Stip, Macedonia

INTERNATIONAL SYMPOSIUM AT FACULTY OF MEDICAL SCIENCES

**“Current achievements and future perspectives in
medical and biomedical research”**

BOOK OF ABSTRACTS

November 24, 2015 – Stip

Contents

ORAL PRESENTATIONS	14
Step forward of Macedonian Agency for medicines and medical devices	
Establishment and strategic plan for development	15
Adherence to Therapy: A Modern Pharmacotherapeutic Approach	16
Use of disinfectants and antiseptics in selected health institutions in Republic of Macedonia.....	18
Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia	19
4-Hydroxynonenal – major bioactive marker of lipid peroxidation.....	20
Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes	21
New Insights into the Chemistry and Functions of Coenzyme Q	22
Genetically modified systems to study muscular dystrophies.....	23
Counteracting microbial biofilm formation onto dental materials	24
The endless potential of the umbilical cord blood for investigation, research and treatment	25
The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells.....	27
Multiple predictive model for clinical and subclinical depression in adolescence	28
Molecular Imaging and therapy with radionuclides of prostate cancer.....	29
Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks	31
The role of molecular cocrystals in drug development	33
Drug development based on radiolabeled antibodies	34
POSTER PRESENTATIONS	35
Correlation between dynamic balance and gait parameters in patients with ischemic stroke in the chronic period.....	36
Effect of kinesitherapy on physical activity in patient with Guillain-Barré syndrome	37
Case Report : Oligoasthenoteratozoospermia, treatment with acupuncture.....	38
Treatment of cervical spondylosis with acupuncture	40
Effect of kinesitherapy on static and dynamic balance in patient after vertebro-basilar system stroke	41
Malignant pleural effusions in lung cancer: the condition during the disease	42
Systemic fungal infections in hematological malignancies.....	44
Morbidity and mortality of malignant neoplasms in Macedonia	45
Cognitive behavioral program in treating insomnia among elderly patients.....	46
Regulations and legal aspects in management of medical waste	47
Control of the psychiatric disorders in the Republic of Macedonia	49
Monitoring of the renal function in Indometacin treated patients with rheumatoid arthritis	50
Incidence of breast cancer in Macedonia	51
HPV virus as a cause of cancer of the cervix in R.Macedonia.....	52
Analysis of the Pap test results by age groups in the area of Kriva Palanka.....	53
Giant rhinophyma treated by excision and full thickness skin grafting	55
Incidence of patients with chronic renal failure in Skopje	56
Calculation of effective dose to family members of patients with thyroid diseases	57
Contemporary Microbiological Diagnostic Tests for Rapid Identification and Detection of Resistance of Mycobacterium tuberculosis	59
Analysis of clinical features and complications in patients with β -thalassemia in the region of Strumica...60	
Lymphoepithelioma: A case report	62
F-ra Capitulum Radium L.Dex. – A Case report	63
Patient with intracranial hemorrhage and arteriovenous malformation detected with transcranial color duplex sonography – case report	64
Hereditary supracondylar spur of the humerus: Case report	66
Prosthetic rehabilitation in patient with advanced degree of functional disorders (case report).....	67
Marginal Implants Bone Loss – a Case Report.....	68
Ectodermal Dysplasia, a Case Report: Challenge for Prosthodontic Solution.....	69

Alveolar socket preservation and shaping using temporary prosthetic construction – cases presentation...	71
Porcelain veneers produced by refractory die method	72
Correlation of Two Different Local Hemostatic Modalities in Oral Surgery Patients with Oral Anticoagulants.....	73
Assessment of orthodontic treatment need among school children by using iotn (index of orthodontic treatment need)	75
Oral Hygiene Level Maintenance among Dental Medicine Students	76
Poor oral hygiene and show of caries in 12 year old children.....	77
Implant-prosthetic therapy failure in smoker and nonsmoker patients	78
Oral surgery treatment in the patients with combination syndrome.....	79
Iatrogenic mistakes, cause for a failure at surgical treatment of a chronic periapical processes.....	80
Evaluation of Different Preparation of Artificial Teeth and Acrylate Prosthetic Base	81
Analysis of the dimensional stability of elastomeric silicone impression materials	82
Use of Gypsum Into Working Everyday in Dental Technician.....	84
Mobile dental NOG types used in working dental models.....	85
Determining normal tissue toxicity of non-radioactively Lu/Y-labeled rituximab-conjugates in rat animal model.....	86
Genetically Engineered Mouse Models For Human Pancreatic Cancer: A Review Of The KC, KPC And iKRas*P53* Models.....	87
Mouse Models For Human Prostate Cancer: Xenograft Vs Genetically Engineered Mouse Model	88
HER2 Transgenic Mouse Models: A Way To HER2+ Breast Cancer Targeted Therapy	89
Types of scaffolds and their application in bone tissue engineering	90
Significance of preparation of tissue samples for electron microscopy for observation and diagnosis	91
Design and characterization of nanoparticles as platforms for delivery of curcumin	93
Freeze-drying approach to enhance antibody stability.....	94
An overview of phytosomes as a novel herbal drug delivery system	95
Determination of active pharmaceutical ingredient – chloropyramine in <i>dragées</i>	97
Comparison of volatile aroma compounds between cultivated and spontaneous flowering stems of <i>Sideritis scardica</i> Griseb. from R. Macedonia.....	98
Bioactive compounds of cold-pressed oil from the seeds of Goji Berry (<i>Lycium barbarum</i>)	99
Development and validation of HPLC method for determination of flavonoids in herbal preparations.....	100
Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in <i>Camellia sinensis</i> teas	101
Determination of trace elements analyzed by atomic emission spectrometry with inductively coupled plasma (ICP-AES) in <i>Matricaria chamomilla</i> L. teas present on macedonian market.....	102
Human health risks from heavy metals via consumption of contaminated food.....	103
Development of an ultrasonic method for effective extraction of capsaicin as a potent bioactive compound.....	104
Electrochemical analysis of the properties of benzene-1,2,4-triol	105
Comparison of the procedure for registration of medicines in the European Union and the Republic of Macedonia	106
Pharmacoeconomic evaluation of the antibiotic prophylaxis in orthopedic surgeries	107
Therapeutic approach in the treatment of benign prostatic hyperplasia.....	108
Oxidative stress, aging and antioxidants	109
Oxidative stress, oxidative DNA damage and prostate cancer.....	111
RNA interference (RNAi) mechanism as a basis for future successful treatment of chronic hepatitis B infection.....	112
Anti-cancer target therapy based on drugs conjugated to hyaluronic acid.....	114
Cancer-specific conjugated monoclonal antibodies for anticancer therapy	115
Accreditation of the Laboratory of Radiopharmacy – requested requirements or need of challenge	117
Quality control of PET radiopharmaceuticals, with reference to its specifics vs quality control of conventional pharmaceuticals	119

Production of [¹¹ C]Choline in The University Institute for PET – new perspective in diagnostics of prostate malignancy in R. of Macedonia	120
PET radiopharmaceuticals in the diagnosis of neurological diseases	122
Achievements and perspectives in formulation of stable immunoconjugate of the HER2-targeting trastuzumab – potential for rapid labelling with Gallium-68	123

Oxidative stress, aging and antioxidants

Viktorija Trajkoska¹, Zorica Arsova-Sarafinovska^{1,2}

¹*University Goce Delcev – Stip, Faculty of Medical Sciences, Krste Misirkov 10-A, Stip, 2000, Republic of Macedonia*

²*Institute of Public Health of the Republic of Macedonia, 50 Divizija 6, 1000 Skopje, Republic of Macedonia*

Telephone: (+389-70) 962-738; E-mail address: viktorija.15542@student.ugd.edu.mk

Abstract

The term oxidative stress is defined as a direct consequence of the increased production of the so-called free radicals accompanied with the decreased activity of the antioxidant defense system against them. The “free radicals theory of aging” was firstly proposed by Denham Harman in 1950. According to this concept, free radicals attack the susceptible cell structures continuously over the life, thus impairing their physiological functions. Moreover, it was suggested that the increased oxidative stress plays a crucial role in the pathogenesis of various chronic diseases associated with aging, such as cancer, neurodegenerative diseases, atherosclerosis, etc. Later, in 1970, Harman expanded the previous concept introducing the role of the endogenously generated reactive species in mitochondria in the oxidative stress phenomena. The findings that the mitochondrial DNA damage in mammals increases with age further supported the mitochondrial theory of aging. Therefore, it was concluded that the intrinsic generation of free radicals is an inevitable consequence of the consumption of oxygen and ATP production by mitochondria. Later on, Halliwell and Gutteridge renamed this theory in “oxidative stress theory of aging”, suggesting that aging and age-related diseases are not only caused by free radicals, but also by other reactive oxygen species. According to their theory, organisms age because of an accumulation of oxidative damage to the critical cellular components. For example, the DNA is continuously exposed to the oxidative modification. Consequently, reactive species may form a variety of DNA adducts via direct attacks or indirectly by initiating autocatalytic lipid peroxidation. The situation is further complicated knowing that the moderate levels of radicals are not only beneficial, but also essential, for exerting their functions in signaling pathways, inflammation, or immune response to pathogens. There are various enzyme systems whose functions are to remove and/ or repair DNA modifications in order for cells to maintain the necessary level of oxidative stress. Moreover, the oxidative damage can be worsened by a decreased efficiency of antioxidant defense mechanisms. The first line of endogenous defenses against reactive oxygen species includes antioxidant enzymes. The most significant ones are glutathione peroxidase (GPX), catalase (CAT), and superoxide dismutase (SOD). Genetic factors may affect about 25% of the variation in human life span. Among the antioxidant enzymes, the biggest role in longevity can be attributed to SOD2 and GPX genes. Up to date, there are more than 80 publications supporting the role of genetic variations in the regulation of the response to the oxidative stress. Finally, nowadays, in addition to the natural defense systems, it is generally believed that dietary antioxidants are able to increase the antioxidant protection, thus improving health and increasing cellular resistance to stress. While, there is growing evidence that changes in lifestyle (such as, moderate exercise, increased intake of dietary antioxidants, and

reduced calorie intake) could improve health and increase longevity, the role of the synthetic antioxidant supplements in controlling optimal levels of oxidative stress remains still controversial.

Keywords: aging, antioxidant enzymes, free radicals, oxidative stress.