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

BOOK OF ABSTRACTS

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Contents

ORAL PRESENTATIONS	10
Step forward of Macedonian Agency for medicines and medical devices	
Establishment and strategic plan for development.....	11
Adherence to Therapy: A Modern Pharmacotherapeutic Approach.....	12
Use of disinfectants and antiseptics in selected health institutions in Republic of Macedonia	14
Code of Ethics for Pharmacists – Pharmaceutical Chamber of Macedonia.....	15
4-Hydroxynonenal – major bioactive marker of lipid peroxidation	16
Nicotinamide adenine dinucleotide biosynthesis and consumption in dysfunctional white adipocytes.....	17
New Insights into the Chemistry and Functions of Coenzyme Q.....	18
Genetically modified systems to study muscular dystrophies	19
Counteracting microbial biofilm formation onto dental materials.....	20
The endless potential of the umbilical cord blood for investigation, research and treatment.....	21
The cytokinesis-blocked micronucleus assay: Good choice for detection and evaluation of genotoxicity in human cells	23
Multiple predictive model for clinical and subclinical depression in adolescence	24
Molecular Imaging and therapy with radionuclides of prostate cancer	25
Where Nanotechnology and Nanomedicine meet – Applications and Potential Risks	27
The role of molecular cocrystals in drug development.....	29
Drug development based on radiolabeled antibodies.....	30
POSTER PRESENTATIONS	31
Correlation between dynamic balance and gait parameters in patients with ischemic stroke in the chronic period.....	32
Effect of kinesitherapy on physical activity in patient with Guillain-Barré syndrome.....	33
Case Report : Oligoasthenoteratozoospermia, treatment with acupuncture	34
Treatment of cervical spondylosis with acupuncture.....	36
Effect of kinesitherapy on static and dynamic balance in patient after vertebro-basilar system stroke	37
Malignant pleural effusions in lung cancer: the condition during the disease.....	38
Systemic fungal infections in hematological malignancies	40
Morbidity and mortality of malignant neoplasms in Macedonia	41
Cognitive behavioral program in treating insomnia among elderly patients	43
Regulations and legal aspects in management of medical waste	44
Control of the psychiatric disorders in the Republic of Macedonia.....	46
Monitoring of the renal function in Indometacin treated patients with rheumatoid arthritis.....	47
Incidence of breast cancer in Macedonia	48
HPV virus as a cause of cancer of the cervix in R.Macedonia	49
Analysis of the Pap test results by age groups in the area of Kriva Palanka	50
Giant rhinophyma treated by excision and full thickness skin grafting.....	52
Incidence of patients with chronic renal failure in Skopje.....	53
Calculation of effective dose to family members of patients with thyroid diseases	54
Contemporary Microbiological Diagnostic Tests for Rapid Identification and Detection of Resistance of Mycobacterium tuberculosis.....	56
Analysis of clinical features and complications in patients with β -thalassemia in the region of Strumica	57
Lymphoepithelioma: A case report.....	59

F-ra Capitulum Radii L.Dex. – A Case report	60
Patient with intracranial hemorrhage and arteriovenous malformation detected with transcranial color duplex sonography – case report.....	61
Hereditary supracondylar spur of the humerus: Case report.....	63
Prosthetic rehabilitation in patient with advanced degree of functional disorders (case report)	64
Marginal Implants Bone Loss – a Case Report.....	65
Ectodermal Dysplasia, a Case Report: Challenge for Prosthodontic Solution	66
Alveolar socket preservation and shaping using temporary	68
prosthetic construction – cases presentation	68
Porcelain veneers produced by refractory die method.....	69
Correlation of Two Different Local Hemostatic Modalities in Oral Surgery Patients with Oral Anticoagulants.....	70
Assessment of orthodontic treatment need among school children by using iotn (index of orthodontic treatment need)	72
Oral Hygiene Level Maintenance among Dental Medicine Students	73
Poor oral hygiene and show of caries in 12 year old children	74
Implant-prosthetic therapy failure in smoker and nonsmoker patients	75
Oral surgery treatment in the patients with combination syndrome	76
Iatrogenic mistakes, cause for a failure at surgical treatment of a chronic periapical processes	77
Evaluation of Different Preparation of Artificial Teeth and Acrylate Prosthetic Base.....	78
Analysis of the dimensional stability of elastomeric silicone impression materials.....	79
Use of Gypsum Into Working Everyday in Dental Technician	81
Mobile dental NOG types used in working dental models	82
Determining normal tissue toxicity of non-radioactively Lu/Y-labeled rituximab-conjugates in rat animal model.....	83
Genetically Engineered Mouse Models For Human Pancreatic Cancer: A Review Of The KC, KPC And iKRas*P53* Models.....	84
Mouse Models For Human Prostate Cancer: Xenograft Vs Genetically Engineered Mouse Model	85
HER2 Transgenic Mouse Models: A Way To HER2+ Breast Cancer Targeted Therapy.....	86
Types of scaffolds and their application in bone tissue engineering.....	87
Significance of preparation of tissue samples for electron microscopy for observation and diagnosis.....	88
Design and characterization of nanoparticles as platforms for delivery of curcumin.....	90
Freeze-drying approach to enhance antibody stability.....	91
An overview of phytosomes as a novel herbal drug delivery system	92
Determination of active pharmaceutical ingredient – chloropyramine in <i>dragées</i>	94
Compariton of volatile aroma compounds between cultivated and spontaneous flowering stems of <i>Sideritis scardica</i> Griseb. from R. Macedonia.....	95
Bioactive compounds of cold-pressed oil from the seeds of Goji Berry (<i>Lycium barbarum</i>).....	96
Development and validation of HPLC method for determination of flavonoids in herbal preparations	97
Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in <i>Camellia sinensis</i> teas.....	98
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..	99
Human health risks from heavy metals via consumption of contaminated food	100

Development of an ultrasonic method for effective extraction of capsaicin as a potent bioactive compound.....	101
Electrochemical analysis of the properties of benzene-1,2,4-triol.....	102
Comparison of the procedure for registration of medicines in the European Union and the Republic of Macedonia	103
Pharmacoeconomic evaluation of the antibiotic prophylaxis in orthopedic surgeries.....	104
Therapeutic approach in the treatment of benign prostatic hyperplasia.....	105
Oxidative stress, aging and antioxidants.....	106
Oxidative stress, oxidative DNA damage and prostate cancer	108
RNA interference (RNAi) mechanism as a basis for future successful treatment of chronic hepatitis B infection	110
Anti-cancer target therapy based on drugs conjugated to hyaluronic acid	112
Cancer-specific conjugated monoclonal antibodies for anticancer therapy.....	113
Accreditation of the Laboratory of Radiopharmacy – requested requirements or need of challenge	115
Quality control of PET radiopharmaceuticals, with reference to its specifics vs quality control of conventional pharmaceuticals	117
Production of [¹¹ C]Choline in The University Institute for PET – new perspective in diagnostics of prostate malignancy in R. of Macedonia	118
PET radiopharmaceuticals in the diagnosis of neurological diseases	120
Achievements and perspectives in formulation of stable immunoconjugate of the HER2-targeting trastuzumab – potential for rapid labelling with Gallium-68.....	121

Atomic emission spectrometry with inductively coupled plasma (ICP-AES) analysis of trace elements in *Camellia sinensis* teas

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Abstract

The atomic emission spectrometry with inductively coupled plasma (ICP-AES) technique was used for determination of trace elements presence and their contents in *Camellia sinensis* teas and its tea mixtures. Samples were collected from macedonian market originating from Macedonia, Serbia and Poland. For sample preparation microwave digestion system using HNO₃ and H₂O₂ was applied. The following trace elements: Al, Ba, Ca, Cd, Cr, Cu, Mn, Fe, K, Li, Mg, Mn, Mo, Na, Ni, P, Pb, Sr, V and Zn were determined in several types of tea products. The results showed that K, Ca and Mg were the most abundant elements (10287 mg/kg, 6072 mg/kg, 3072 mg/kg, respectively) and Mo and V were not detected. The elements: Na and Li were detected at the widest ranges. As, Cd and Pb were detected at allowed quantities. The results for the content of all analyzed elements showed the expected variation among sampled teas and therefore these tea products may not produce any health risks for human consumption as sources of toxic metals.

Keywords

Atomic spectrometry; ICP-MS; *Camellia sinensis*; trace elements; tea.