



**XIII INTERNATIONAL CONFERENCE ON SOCIAL AND
TECHNOLOGICAL DEVELOPMENT – STED 2024**

THE BOOK OF ABSTRACTS

**XIII MEĐUNARODNA KONFERENCIJA O DRUŠTVENOM I
TEHNOLOŠKOM RAZVOJU – STED 2024**

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THE EFFECT OF DIFFERENT SALTS ON THE CHEMICAL COMPOSITION OF LAVENDER ESSENTIAL OIL	98
<i>Aleksandra B. Perović, Ivana T. Karabegović, Miljana S. Krstić, Ana V. Veličković, Jelena M. Avramović, Stojan S. Mančić, Bojana R. Danilović, Vlada B. Veljković</i>	
A COMPARISON OF CONVENTIONAL AND NOVEL CASTOR OIL RECOVERY METHODS	100
<i>Miljana Krstić, Dragana Rajković, Ana Veličković, Jelena Avramović, Ana M. Marjanović Jeromela, Ivan J. Stojković, Vlada Veljković</i>	
EXAMINATION OF THE QUALITY OF GOAT CHEESE IN A SACK	101
<i>Savanović Danica, Velemir Ana, Savanović Jovo, Mandić Snježana, Savić Aleksandar, Kučinar Jovana</i>	
SENSORY PROPERTIES OF FERMENTED SAUSAGES WITH CASINGS TREATED WITH PLANT EXTRACTS.....	102
<i>Ana Velemir, Snježana Mandić, Danica Savanović, Jovo Savanović</i>	
BIOACTIVITY, NUTRITIVE AND SENSORY QUALITY OF NEW PRODUCT - CORNELIAN CHERRY TOPPING	104
<i>Božana Odžaković, Vanja Čupina, Slavica Grujić, Staniša Latinović, Zoran Kukrić</i>	
COMPOSITION AND ANTIFUNGAL ACTIVITY OF CARUM CARVI ESSENTIAL OIL	105
<i>Dragana Playšić, Ljubiša Šarić, Ana Varga, Ivana Čabarkapa, Jasmina Lazarević, Olja Todorić, Dragan Psodorov</i>	
ELECTRONIC, STRUCTURAL STABILITIES AND OPTICAL PROPERTIES OF BA ₂ SIO ₄ SPINEL FOR OPTOELECTRONIC DEVICES: A FIRST PRINCIPLE STUDY	107
<i>Idris Muhammad Chiromawa, Amirruddin Shaari, Razif Razali, Abdullahi Lawal, Abdullahi Mikailu, Muhammad Tajuddeen Garba</i>	
POTENTIAL UTILIZATION OF THE MEAT OF INVASIVE CRAYFISH FAXONIUS LIMOSUS FROM THE DANUBE RIVER	108
<i>Jasmina Lazarević, Ivana Čabarkapa, Slađana Rakita, Jovana Delić, Miloš Županjac, Zorica Tomićić, Tatjana Peulić</i>	
EXTRACTION AND CHARACTERIZATION OF GARLIC PENNYCRESS (THLASPI ALLIACEUM L.) SEEDS OIL	109
<i>Milan D. Kostić, Biljana S. Đorđević, Marija R. Miladinović, Olivera S. Stamenković</i>	
THE STATISTICAL ANALYSIS OF THE OIL EXTRACTION FROM GARLIC PENNYCRESS (THLASPI ALLIACEUM L.) SEEDS	110
<i>Milan D. Kostić, Biljana S. Đorđević, Marija R. Miladinović, Olivera S. Stamenković</i>	

DESIGNING A NUMERICAL MODEL OF TOOTH FROM CT WITH VOLUMETRIC MESH

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ABSTRACT

Today's dental praxis is strongly based on assumptions and experience; hence it often leads to unwanted complications and failure in the therapy. Complex dental treatments, such as crowns, bridges, prostheses, implant constructions, can cost a lot of time, money and effort to be created. In order to decrease the number of failures, the dentistry is striving for digital solutions capable to plan and predict treatments.

The content of this paper highlights step by step procedure of building numerical model of intact and endodontic treated tooth. A model of this kind can help in performing analysis for accurate calculation of the load on the teeth (one, more or all teeth), prediction of the outcome of the implant and/or implant-prosthetic dental treatment. The proposed procedure can be applied for designing a numerical model of whole jaw which can be used to find answers of whether the complex dental construction will withstand the chewing forces and hence can help by proposing a precise solution if the predicted outcome is unfavourable.

Keywords: volumetric mesh, numerical model, tooth, dental solution.