



**Сојуз на хемичарите и технолозите
на Македонија**

**Society of Chemists and Technologists
of Macedonia**

14th STUDENTS' CONGRESS OF SCTM

BOOK OF ABSTRACTS

**30th September - 2nd October 2021
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Skopje, N. Macedonia**



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**RIS ALiCE project: Al-rich industrial residues for mineral binders in ESEE region,
supported by European Institute of Innovation and Technologies**



RIS – ALiCE (Project No. 18258):
Al-rich industrial residues for mineral binders in ESEE region



CONTENTS

PLENARY LECTURES

PL 1 BILJANA ANGJUSHEVA

Ss. Cyril and Methodius University in Skopje, Faculty of Technology and Metallurgy,
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Utilization of the industrial by-products for production of ceramics 2

PL 2 JASMINA PETRESKA STANOEVA

Institute of Chemistry, Faculty of Natural sciences and Mathematics, Ss. Cyril and
Methodius University in Skopje, R.N. Macedonia

Phytochemical characterization of culinary salvia officinalis species 3

PL 3 JANE BOGDANOV ZORAN ZDRAVKOVSKI, JASMINA PETRESKA- STANOEVA AND MARINA STEFOVA

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Methodius University, Arhimedova 5, 1000 Skopje, R. Macedonia

**Past benefits-today's problems: chemistry's steering role in balancing progress
with sustainability 4**

PL 4 ELENA TOMOVSKA

Department of Textiles, Faculty of Technology and Metallurgy, University SS Cyril
and Methodius, Skopje, R.Macedonia

Pre-consumer textile waste – challenges and possibilities for new products 6

STUDENTS PRESENTATIONS

SP 1 Marija Katerina Paunović, Anita Grozdanov, Perica Paunović

**Using of fly ash from ferro-nickel industry for preparation of PVC/FY eco-
friendly composites 8**

SP 2 Andrea Petanova, Perica Paunović, Anita Grozdanov

**Circular economy in metallurgical waste: application of converter slag from
ferro-nickel production into eco-friendly composites 9**

SP 3	Ema Stojchevska, Aleksandra Bužarovska	
	Various procedures for preparation of ceramic nanowires	10
SP4	Nikolina Stamatovska Aluloska	
	Hg - Mercury analysis of Al-rich industrial residues for mineral binders in esee region	11
SP5	Radica Piponska, Anita Grozdanov, Perica Paunović	
	Sustainable materials in metallurgy – incorporation of ferro-nickel metallurgical slag in PVC-based composites	12
SP6	Magdalena Bojadjiska, Radica Piponska, Monika Fidanchevska, Ivana Vukanac	
	Radiological analysis of Al-rich industrial residues	13
SP 7	Lara Mencinger, Ana Tiana Bauman, Klemen Teran, Bence Koszo, Sabina Dolenc	
	Critical raw materials (CRMs) in bauxites – the Slovenian case study	14
SP8	Maruša Mrak ¹ , Frank Winnefeld, Barbara Lothenbach, Sabina Dolenc	
	Effect of temperature on phase assemblage of belite calcium-sulfoaluminate cement	15
SP9	Pece Sherovski, Natasha Ristovska	
	Determination of selenium in human plasma and blood by electrothermal atomic absorption spectrometry (ETAAS)	16
SP10	Burbuqe Demiraj, Violeta Hajdari, Flamur Sopaj, Elez Krasniqi, Muhamet Zogaj, Musaj Paçarizi	
	Determination of major and trace elements in the plant sedum ochroleucum and serpentine soil in Llapushnik, Kosovo	17
SP11	Violeta Hajdari, Burbuqe Demiraj, Flamur Sopaj, Elez Krasniqi, Muhamet Zogaj, Musaj Paçarizi	
	Concentration of some metals in the endemic plant species stachys scardica and serpentine soil in Golesh, Kosovo	18

SP12	Marinela Cvetanoska, Jasmina Petreska Stanoeva, Marina Stefova	
	Identification of pyrrolizidine alkaloids in boraginaceae species from North Macedonia	19
SP13	Teodora Petkoska, Marinela Cvetanoska, Marina Stefova, Jasmina Petreska Stanoeva	
	Validation of GC/ECD and GC/MS methods for analysis of organochlorine pesticides and polychlorinated biphenyls in soil	20
SP14	Elena Stefova, Jasmina Petreska Stanoeva	
	Development of analytical methods for extraction and characterization of pyrrolizidine alkaloids in plant material	21
SP15	Darko Stojanov, Viktorija Jakimovska, Mirjana Bogdanoska, Ana Petkovska, Jelena Lazova, Marina Stefova	
	Development of a reversed-phase ion-pair HPLC method for determination of nitrates and nitrites in groundwater and bottled water samples	22
SP16	Granit Kastrati, Fadil Millaku, Flamur Sopaj, Trajče Stafilov, Krste Tašev, Robert Šajn, Musaj Paçarizi	
	Distribution and statistical analysis of major and trace elements in the bee pollen from the whole territory of Republic of Kosovo	23
SP17	Amela Emurlai, Mishela Temkov	
	Determination of storage conditions for grape pomace biscuits using their sorption isotherms	24
SP18	Angela Georgievska, Rabije Mahmuti, Mishela Temkov	
	The effects of grape powder inclusion on the physical properties of muffins	25
SP19	Ivana Gjorgievska, Elena Velickova	
	Inulin extraction from onion and leek	26
SP20	Simona Jovanova, Elena Velickova	
	Production of shortbread cookies with non-conventional method using fat mimetics	27

SP21	Kristina Momirovska, Elena Velickova, Darko Dimitrovski	
	Application of chitosan edible films for shelf live extension of raw tomatoes	28
SP22	Aleksandar Piperevski, Violeta Ivanova-Petropulos, Atanas Runchev	
	Impact of different vinification methods on the polyphenolic content in red wines	29
SP23	Marija Trenchevska, Mishela Temkov	
	Rheological properties of functional biscuits made with incorporation of grape skins and seeds from variety “Vranec”	30
SP24	Ivana Spaseska, Pece Sherovski, Marina Stefova	
	A simple HPLC-UV-DAD method for determination of acrylamide in food products	31
SP25	Aleksandra Naumoska, Marina Stojanovska	
	Using the escape room and the nearpod as a new innovative approach in chemistry teaching	32
SP26	Mateja Kubin, Aleksandra Buřarovska	
	Induced β-phase formation in poly (Vinylidene fluoride) composite membranes using tips method	33
SP27	Kristina Gjorgjevikj, Miha Bukleski, Sandra Dimitrovska-Lazova, Slobotka Aleksovska	
	Synthesis and structure-vibrational analysis of perovskites containing PbI₆-octahedra	34
SP28	Sofija Popovska, Sandra Dimitrovska-Lazova, Miha Bukleski, Slobotka Aleksovska	
	Influence of the rare-earth cation substitution in Re_{1-x}Er_xFeO₃ (Re = Sm or Gd, x = 0, 0.2 and 0.4) perovskites characterized by powder XRD and vibrational spectroscopy	35
SP29	Ivona Sofronievska, Marina Stefova, Jasmina Petreska Stanoeva, Jane Bogdanov	
	Implementation of methods for determining and monitoring persistent organic pollutants in air	36

SP30 Sylwia Zimosz, Aneta Słodek, Ewa Schab-Balcerzak

Dye-sensitized solar cells

37

IMPACT OF DIFFERENT VINIFICATION METHODS ON THE POLYPHENOLIC CONTENT IN RED WINES

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Polyphenols are large family of naturally occurring, structurally diverse, organic compounds abundant in plants. Phenolic compounds such as anthocyanins, flavonoids and tannins are important constituents of red wine contributing to the taste, color, mouthfeel and quality. They are also associated with the health-promoting properties of red wine. The proportion of the different polyphenols in wine depends on grape variety, maturity, temperature of maceration and fermentation and of the type of vinification. In this study, total phenols (TP), total anthocyanins (TA) and colour parameters of *VitisVinifera* red wines Vranec and Pinot Noir from vintage 2020, produced in the Republic of N. Macedonia, have been evaluated. Wines from both varieties have been produced with two winemaking techniques, including classical fermentation and roto process in order to study and compare the effect of vinification. Total phenols were determined using the Folin-Ciocalteu method at 765nm and expressed as gallic acid equivalent (GAE, mg/l) [1]. Determination of the total anthocyanins was realized by the method proposed by Di Stefano et al. [2]. The samples were diluted with a solution consisting of 70/30/1 (v/v/v) ethanol/water/HCl (concentrated) and the absorbance was measured at 540 nm. Colour parameters, including color intensity (CI) and hue (H) were determined by direct measurement of the wine absorbance at 420 nm, 520 nm and 620 nm. It was found that variety has an influence of the phenolic content, observing higher content of TP and TA in Vranec wines (TP: 1690 mg/l, TA: 248 mg/l) in comparison to Pinot Noir (TP: 1120 mg/l, TA: 236 mg/l) regardless the vinification method. Considering the influence of winemaking method, it was observed that the roto process gives better results and higher content of total phenols and anthocyanins, observed in both varieties.

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