



June 29th - July 1st 2017
Vela Luka, Korčula

International Conference
MATRIB 2017
MATERIALS, TRIBOLOGY, RECYCLING

Organized by:

University North / Sveučilište Sjever

With support of:

- University of Zagreb, Faculty of Graphic Arts,
- Institute of Materials and Machine Mechanics Slovak Academy of Sciences,
- DIT - Dublin Institute of Technology,
- Croatian Society for Materials and Tribology
- Odessa State Academy of Civil Engineering and Architecture
- University of Zagreb, Faculty of Metallurgy

Under the patron of:

- Ministry of Science and Education





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CONFERENCE TOPICS:

- materials and processes
- materials characterization
- material testing
- materials in graphic industry
- materials in naval architecture
- materials in mining
- materials in civil engineering
- metallurgy
- friction and wear
- surface engineering
- chemical engineering
- nanomaterials and nanotechnology
- materials protection
- tribology
- recycling
- ecology
- education

PROGRAMME COMMITTEE:

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ORGANIZING COMMITTEE:

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- Ivana Pavlović
- Anja Zorko
- Vlado Tropša
- Marko Stojić
- Božo Soldo
- Dean Valdec
- Moskalova Khrystyna
- Popov Oleg
- Aleksej Aniskin



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PROGRAMME:

28 th June, Wednesday

21:30 h WELCOME RECEPTION // HOTEL POSEJDON

29 th June, Thursday

8:30 – 9:30 h Registration

9:30 – 9:45 h Opening ceremony

9:45 – 11:15 h LECTURES

∞ ***Invited lecture***

Tomislav Veliki: FREEZING POINTS OF PURE METALS AS DEFINING POINTS OF INTERNATIONAL TEMPERATURE SCALE

∞ **Ladislav Vrsalović, Diana Čudina, Lea Lokas, Ivana Ivanić, Stjepan Kožuh, Mirko Gojić:** STUDIES ON THE INFLUENCE OF CHLORIDE ION CONCENTRATION ON THE CORROSION BEHAVIOR OF CuAlNi ALLOY

∞ **Tomislav Mrčela, Zvonimir Mrčela, Tomislav Malijurek:** RECYCLING OF CFL LIGHT BULBS

∞ **Khrystyna Moskalova, Marin Milković, Goran Kozina:** ANALYSIS OF POROUS AND CHEMICAL ADDITIVES EFFECTS ON THE CEMENT-LIME MORTAR PROPERTIES

11:15 – 11:45 h Coffee break

11:45 – 13:30 h LECTURES

∞ **Aleksandr Gara, Aleksej Aniskin, Matija Orešković:** RECIPE-TECHNOLOGICAL FEATURES OF CARBONIZATION HARDENING OF LIGHTWEIGHT CONCRETE

∞ **Mirna Nožić, Himzo Đukić:** INFLUENCE OF DESIGNING METHODS TO THE SPECIAL NECKING FORCE

∞ **Dean Valdec, Petar Miljković, Sanja Zlatić, Martina Friščić:** THE INFLUENCE OF PRINTING SUBSTRATE PROPERTIES ON COLOR CHARACTERIZATION IN FLEXOGRAPHY ACCORDING TO ISO SPECIFICATIONS

∞ **Katarina Itrić, Damir Modrić:** BANKNOTE CHARACTERIZATION USING FTIR SPECTROSCOPY

13:30 – 15:00 h Lunch break

15:00 – 18:00 h POSTER SESSION 1



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20:30 h **OPENING OF THE EXHIBITION // Gallery Vela Luka**

"MATERIALS AND PEOPLE" - best photos from the 4 th International Photo Contest
"MATRIB - INSPIRATION WITH MATERIALS"

30 th June, Friday

9:30 – 10:45 h **LECTURES**

- ∞ **Sanja Šolić, Zdravko Schauerl, Matjaž Godec , Vlado Tropša:** MICROSTRUCTURAL CHANGES IN HEAT TREATMENT OF PM HIGH SPEED STEELS
- ∞ **Božidar Matijević, Thota Surya Krishna Sushma, Prathvi B.K.:** EFFECT OF HEAT TREATMENT PARAMETERS ON MECHANICAL PROPERTIES AND MICROSTRUCTURE OF ALUMINIUM BRONZE
- ∞ **Željko Kos, Lovorka Gotal Dmitrović:** DEVELOPING A MODEL OF A STRAIN (DEFORMATION) OF A DAMAGED REINFORCED CONCRETE PILLAR IN RELATION TO A LINEAR LOAD CAPACITY
- ∞ **Željko Bosančić, Teo Žeželj, Miroslav Mikota, Ladislav Lazić:** THE INFLUENCE OF BACKGROUND COLOR CHANGE ON THE AVERAGE COLOR CHANGE IN BIOMETRIC PORTRAIT PHOTOGRAPHY

10:45 – 11:15 h **Coffee break**

11:15 – 13:00 h **LECTURES**

- ∞ **Mario Periša, Sanja Zlatić, Miroslav Mikota:** RESULTS ANALYSIS RANKING PHOTOGRAPHY ON PHOTOGRAPHIC COMPETITION
- ∞ **Iva Komesar, Miroslav Mikota, Teo Žeželj, Martina Hajdek:** THE ANALYSIS OF THE IMPACT OF TECHNICAL CHARACTERISTICS ON SEMANTIC VALUES OF MOVING PHOTOS
- ∞ **Dino Priselac, Tamara Tomašegović, Sanja Mahović Poljaček, Tomislav Cigula, Mirela Leskovic:** THERMAL, SURFACE AND MECHANICAL PROPERTIES OF PCL/PLA COMPOSITES WITH COCONUT FIBERS AS AN ALTERNATIVE MATERIAL TO PHOTOPOLYMER PRINTING PLATES

13:00 – 14:30 h **Lunch break**

14:30 – 17:00 h **POSTER SESSION 2**

21:00 h **CONFERENCE DINNER //**

1 st July, Saturday

9:00 – 18:00 h **EXCURSION TO THE ISLAND OF PROIZD**



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POSTER SESSION

Ivana Bolanča Mirković, Zdenka Bolanča, Igor Majnarić
SUSTAINABLE WEB DESIGN

Alan Divjak, Marko Maričević, Vladimir Cviljušac
DETERMINATION OF POLYGONAL DENSITY DEPENDENCY ON PROCESSING TIME IN
PHOTOGRAMMETRIC 3D SCANNING

Nina Dmitrieva, Oleg Popov, Anna Hostryk
THE INFLUENCE OF CONSTRUCTION AND PROCESS DESIGN ON IMBIBITIONAL
PROPERTIES OF "WATERPROOFING – LIMESTONE SHELL" SYSTEM

Miroslav Duspara, Valnea Starčević, Ivan Samardžić, Marko Horvat, Dejan Marić
OPTIMIZATION OF ABRASIVE WATERJET MACHINING PROCESS PARAMETERS

Zvonimir Džoić, Teo Žeželj, Ivana Pavlović, Dražen Kirša, Mladen Lugarić
CHROMATIC ANALYSIS OF ACHROMATIC PHOTOGRAPHIC IMAGE

Marko Horvat, Živko Kondić, Veljko Kondić, Ivan Samardžić, Vinko Višnjić
INTERNAL VERIFICATION OF QUALITY OF COATINGS ON MATERIALS OF STRUCTURES IN
CONFORMITY WITH REQUIREMENTS OF EN 1090 STANDARD

Božidar Hršak, Ante Čikić, Vlado Tropša, Stjepan Golubić, Ivan Kelava
OVERVIEW OF THE DEVELOPMENT AND APPLICATION OF BIOMIMETIC MATERIALS

Anica Hunjet, Maja Gros
COLORS FOR CHILDREN IN MARKETING AND MEDIA

Trpimir Jeronim Ježić, Vladimir Cviljušac, Klaudio Pap
POSSIBILITIES FOR SMART CLIENT-SIDE AUTOCORRECTION AND DYNAMIC SELF-
ADJUSTMENT OF PHOTOGRAPHIC CONTENT

Anna Maria Hackenberger Kutuzović, Iva Komesar, Miroslav Mikota, Krunoslav Hajdek, Ante
Rončević
USE OF PARALAX EFFECT IN PHOTOGRAPHY

Sandra Kovačević, Damir Modrić
QUANTUM DOTS – UNIQUE MATERIAL FOR SECURITY SYSTEMS

Anatolij Kovrov, Aleksei Kovtunenکو, Nina Vysochan
STRAIN DIAGRAMS OF CROSS SECTION OF REINFORCED CONCRETE BENDING ELEMENTS

Ana Lešić, Igor Majnarić, Damir Modrić, Marko Morić, Ivana Bolanča Mirković
LIGHT PERMANENCE WRAP PRINTS PRODUCED WITH CMYK ECO SOLVENT INKJET INKS



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Yevgen Lutskin, Olena Shynkevych, Aleksey Aniskin
MULTIPLE INFLUENCE OF SILICA-CONTAINING COMPONENT OF THE CHEMO-BIOGENIC ORIGIN ON THE STRUCTURE AND PROPERTIES OF COMPOSITES ON SILICATE MATRIX

Karolina Maduna, Narendra Kumar, Dmitry Yu. Murzin
INFLUENCE OF SILICA TO ALUMINA RATIO ON CHEMICAL AND MORPHOLOGICAL PROPERTIES OF NANOSIZED COPPER BEARING ZEOLITES OF VARIOUS FRAMEWORK TYPE AND THEIR CATALYTIC POTENTIAL FOR WASTEWATER TREATMENT

Marko Maričević, Alan Divjak, Ivan Pučić
SAMPLE NUMBER INFLUENCE ON SURFACE QUALITY IN STRUCTURED LIGHT 3D SCANNING

Andrey Mishutn, Sergii Kroviakov, Oleg Pishev, Božo Soldo
MODIFIED EXPANDED CLAY LIGHTWEIGHT CONCRETES FOR THIN-WALLED REINFORCED CONCRETE FLOATING STRUCTURES

Josip Nef, Marko Maričević, Mile Matijević
ANALYSIS OF .OBJ FILE FORMAT IN ADDITIVE MANUFACTURING PROCESS

Martina Novosel, Nikola Mrvac, Ivan Pučić
THE INFLUENCE OF COLOR ON LOGOTYPE EXPERIENCE

Željko Penava, Diana Šimić Penava, Željko Knezić
INFLUENCE KINDS OF MATERIALS ON THE POISSON'S RATIO OF WOVEN FABRICS

Marek Slovaček, Ivica Garašić, Jadranka Eržišnik, Ivan Jurić
USING OF WELDING VIRTUAL NUMERICAL SIMULATION AS TECHNICAL SUPPORT FOR THE INDUSTRY

Božo Smoljan, Dario Iljkić, Sunčana Smokvina Hanza, Lovro Štic, Andrej Borić, Bojan Senčić, Robert Vertnik
NUMERICAL MODEL AND COMPUTER SIMULATION OF CONTROLLED COOLING OF HOT ROLLED STEEL BARS

Sandra Svilović, Ivona Horvat, Marija Čosić, Renato Stipišić
INVESTIGATION ON THE EFFECTS OF PROCESS PARAMETERS ON COPPER EXCHANGE ON NaX IN BATCH STIRRED REACTOR

Ivan Šumiga, Veljko Kondić, Marko Horvat, Vinko Višnjic, Živko Kondić
THERMOELECTRIC MODULES AND POSSIBILITIES OF THESE APPLICATIONS

Ivan Trifonov, Kostiantyn Dikarev, Oleksandra Kuzmenko, Matija Orešković
ANALYSING COMPLIANCE OF A PROJECTS SET WITH STRATEGIC OBJECTIVES OF A CONSTRUCTION COMPANY



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Vinko Višnjić, Marko Stojić, Veljko Kondić, Marko Horvat
PROTECTION OF METAL AND METAL STRUCTURES WITH ZINC COATING

Anja Zorko, Snježana Ivančić Valenko, Damira Keček, Darijo Čerepinko: THE IMPACT OF THE
TEXT AND BACKGROUND COLOR ON THE SCREEN READING EXPERIENCE

Irena Žmak, Carina Hartmann
CURRENT STATE OF THE PLASTIC WASTE RECYCLING SYSTEM IN THE EUROPEAN UNION
AND IN GERMANY

Ana Žužić, Mirela Rožić, Marina Vukoje, Lucia Klarin, Ella Gracin
DYNAMIC REVERSIBILITY MECHANISM OF THERMOCHROMIC PRINTING INK ON RECYCLED
PAPER SUBSTRATE
