

Tekstilna industrija



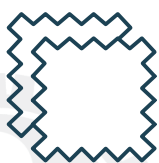
1868 - 2024
SAVEZ INŽENJERA I TEHNIČARA TEKSTILACA SRBIJE
UNION OF TEXTILE ENGINEERS AND TECHNICIANS
OF SERBIA

TAILOR'S RULER

CHALK

NEEDLE

THIMBLE



Naučni i stručni časopis tekstilne i odevne industrije
Scientific and professional journal of the Union of textile engineers and technicians of Serbia



TAILOR'S DUMMY

SPOOL

IRON

CROCHET

LEATHER

JACKET



SEWING PATTERN

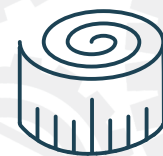
CROSS-STITCH

BOBBIN

TAILOR'S SHEARS

KNITWEAR

BUTTONS



SAFETY PIN

KNITTING

BOWKNOT

CLOTHING

MEASURING TAPE

DRESS SHIRT



SPOOL

BLOUSE

BOBBIN CASE

CLOTH

SEWING MACHINE



1868 - 2024

tekstilna industrija

Naučni i stručni časopis tekstilne industrije UDK 677+687 ISSN 0040-2389 eISSN 2683-5665
Scientific and professional journal of the Union of textile engineers and technicians of Serbia

Godina LXXII • Broj 3 • Beograd 2024 • Strana 1-80 • Tiraž 100

Izdavač: SAVEZ INŽENJERA I TEHNIČARA TEKSTILACA SRBIJE

11000 Beograd, Kneza Miloša 7a/II, tel: 060 715 0305

e-mail: casopistekstilnaindustrija@gmail.com

Suizdavač: TEHNOLOŠKO-METALURŠKI FAKULTET, UNIVERZITET U BEOGRADU

Tekući račun: 295-1201292-77 Srpska banka

Štampa: M studio, Stara Pazova

Za izdavača: Prof. dr Snežana Urošević

Predsednik Izdavačkog saveta: Stanko Kiš, dipl. ing.

Redakcioni savet: Prof. dr Snežana Urošević, prof. dr Mirjana Kostić, dr Ana Jelić-Aksentijević, dr Danijela Paunović, dr Gordana Čolović

Glavni i odgovorni urednik: Prof. dr Snežana Urošević

Lektor: Bojana Pejčić, M.Sc.

Tehnički urednik: ing. Aleksandar Sokolović

Dizajn korica: ing. Aleksandar Sokolović

REDAKcioni ODBOR:

Dr Ana Jelić-Aksentijević	Akademija tehničko-umetničkih strukovnih studija Beograd, odsek Visoka tekstilna škola za DTM, Beograd
Dr Biljana Pejić	Akademija tehničko-umetničkih strukovnih studija Beograd, odsek Visoka tekstilna škola za DTM, Beograd
Dr Danijela Paunović	Akademija tehničko-umetničkih strukovnih studija Beograd, odsek Visoka tekstilna škola za DTM, Beograd
Dr Dušan Trajković	Tehnološki fakultet, Leskovac
Dr Gordana Čolović	Akademija tehničko-umetničkih strukovnih studija Beograd, odsek Visoka tekstilna škola za DTM, Beograd
Dr Gordana Kokeza	Tehnološko-metalurški fakultet, Beograd
Dr Ineta Nemeša	TF "Mihajlo Pupin" Zrenjanin
Dr Jovan Stepanović	Tehnološki fakultet, Leskovac
Dr Koviljka Asanović	Tehnološko-metalurški fakultet, Beograd
Dr Nemanja Kašiković	Fakultet tehničkih nauka, Novi Sad
Dr Mirjana Kostić	Tehnološko-metalurški fakultet, Beograd
Dr Petar Ušković	Tehnološko-metalurški fakultet, Beograd
Dr Tatjana Šarac	Tehnološki fakultet, Leskovac
Dr Marina Kocareva Ranisavljev	Akademija tehničko-umetničkih strukovnih studija Beograd, odsek Visoka tekstilna škola za DTM, Beograd
Dr Mirjana Reljić	Institut CIS Srbije, Beograd
Dr Nenad Ćirković	Tehnološki fakultet, Leskovac
Dr Nebojša Ristić	Akademija strukovnih studija Južna Srbija, Odsek za tehnološke i umetničke studije, Leskovac
Dr Milovan Vuković	Tehnički fakultet u Boru, Bor
Dr Bruno Završnik	Ekonomsko poslovni fakultet, Maribor, Slovenija
Dr Gizem Karakan Günaydin	Pamukkale University, Faculty of Architecture and Design, Department of Textile and Fashion Design, Denizli, Turkey
Dr Goran Demboski	Univerzitet "Sv. Ćirilo i Metodije", Tehnološko-metalurški fakultet, Skoplje, Severna Makedonija
Dr Isak Karabegović	Akademija nauka i umetnosti Bosne i Hercegovine
Dr Svetlana Janjić	Tehnološki fakultet u Banjoj Luci, Bosna i Hercegovina
Dr Damjana Celcar	Fakultet za dizajn, Ljubljana, Slovenija
Dr Andreja Rudolf	Univerzitet u Mariboru, Mašinski fakultet, Slovenija
Dr Liliana Indrie	Faculty of Energy Engineering and Industrial Management, University of Oradea, Romania
Dr Zlatina Kazlacheva	Faculty of Technics and Technologies, Trakia University, Bulgaria
Dr Sanja Risteski	Tehnološko-tehnički fakultet, Štip, Severna Makedonija
Dr Elsayed Elnashar	Faculty of Specific Education, Kafrelsheikh University, Egypt
Dr Panagiotis Kyratsis	University of Western Macedonia, Greece
Dr Nuno Belino	University of Beira Interior, Faculty of Engineering, Covilhã, Portugal
Dr Boris Mahltig	Hochschule Niederrhein, Faculty of Textile and Clothing Technology Monchengladbach, Germany
Dr Svittlana Arabuli	Kyiv National University of Technologies and Design, Kyiv, Ukraine
Dr Emilia Visileanu	Nacional Research and Development Institute for Textiles and leather, Bucharest, Romania
Dr Vineta Srebrenkoska	Tehnološko-tehnički fakultet, Štip, Severna Makedonija
Dr Maja Jankoska	Univerzitet "Sv. Ćirilo i Metodije", Tehnološko-metalurški fakultet, Skoplje, Severna Makedonija

SADRŽAJ

Reč urednika	3
Huan Lu, Boris Mahltig	
FUNCTIONALIZATION OF TEXTILE MATERIALS BY USING COPPER-CONTAINING COATINGS AND PIGMENTS	4
Antonina Zaiets, Olga Andreyeva	
DETERMINATION OF RATIONAL PARAMETERS OF LIQUID FINISHING OF LEATHER SEMI-FINISHED PRODUCT USING ACRYLIC POLYMER AND MODIFIED FATS	11
Gizem Karakan Günaydin, Mine Akgün, Erhan Kenan Çeven, Nejla Çeven	
INVESTIGATION OF SOME SURFACE ROUGHNESS PROPERTIES OF WOVEN FABRICS PRODUCED WITH SUSTAINABLE YARNS	21
Damjana Celcar, Veronika Gruden Bole	
THE ROLE OF CONSUMER PERCEPTION AND PURCHASING BEHAVIOUR IN THE PROCESS OF DESIGNING SLEEPWEAR	30
Md Alimul Razy Nilanto, Md Nazrul Islam, Sayed Morsalin, Md Sharif Ahmed, Shadman Ahmed Khan	
INVESTIGATION OF MARKER EFFICIENCY COMBINING DIFFERENT SIZE GARMENTS IN THE MARKER AND USING DIFFERENT WIDTH MATERIALS	40
Milica Vlahović, Nenad Vušović, Miljan Vlahović, Slavica Mihajlović, Darja Žarković	
OPTIMIZING TEXTILE EFFLUENTS TREATMENT: FROM CONVENTIONAL TO CUTTING-EDGE SOLUTIONS	46
Nenad Lukić, Olivera Ćosović	
FABRIKA ČARAPA BRAČE R. PIJADE	59
Vesti i informacije	65
Upustvo za autore	77



U FINANSIRANJU ČASOPISA UČESTVOVALO
MINISTARSTVO NAUKE, TEHNOLOŠKOG RAZVOJA
I INOVACIJA REPUBLIKE SRBIJE



1868 - 2024

tekstilna industrija

Naučni i stručni časopis tekstilne industrije UDK 677+687 ISSN 0040-2389 eISSN 2683-5665
Scientific and professional journal of the Union of textile engineers and technicians of Serbia

Volume LXXII • Number 3 • Beograd 2024 • Page 1-80 • Printing 100

Publisher: Textile Engineers and Technicians Union of the Republic Serbia

Editorial offices: Serbia, 11000 Beograd, Kneza Miloša 7a/II, tel: 060 715 0305

e-mail: casopistekstilnaindustrija@gmail.com

Co-publisher: Faculty of Technology and Metallurgy, University of Belgrade, Serbia

For publisher: Snežana Urošević, Ph.D.

President of the Publishing Council: Stanko Kiš, dip.ing.

Editorial Council: Snežana Urošević, Ph.D., Mirjana Kostić, Ph.D., Ana Jelić-Aksentijević, Ph.D., Danijela Paunović, Gordana Čolović, Ph.D.

Editor in Chief: Snežana Urošević, Ph.D.

Translation: Bojana Pejčić M.Sc.

Technical Editor: Aleksandar Sokolović, ing.

Cover design: Aleksandar Sokolović, ing.

EDITORIAL BOARD:

Ana Jelić-Aksentijević Ph.D.	Academy of Technical and Artistic Vocational Studies Belgrade, Department of High Textile School for DTM
Biljana Pejić, Ph.D.	Academy of Technical and Artistic Vocational Studies Belgrade, Department of High Textile School for DTM
Danijela Paunović Ph.D.	Academy of Technical and Artistic Vocational Studies Belgrade, Department of High Textile School for DTM
Dušan Trajković Ph.D.	Faculty of Technology, Leskovac
Gordana Čolović Ph.D.	Academy of Technical and Artistic Vocational Studies Belgrade, Department of High Textile School for DTM
Gordana Kokeza Ph.D.	Faculty of Technology and Metallurgy, Belgrade
Ineta Nemeša Ph.D.	Technical Faculty "Mihajlo Pupin", Zrenjanin
Jovan Stepanović Ph.D.	Faculty of Technology, Leskovac
Koviljka Asanović Ph.D.	Faculty of Technology and Metallurgy, Belgrade
Nemanja Kašiković Ph.D.	Faculty of Technical Sciences, Novi Sad
Mirjana Kostić Ph.D.	Faculty of Technology and Metallurgy, Belgrade
Petar Uskoković, Ph.D.	Faculty of Technology and Metallurgy, Belgrade
Tatjana Šarac, Ph.D.	Faculty of Technology, Leskovac
Marina Kocareva	Academy of Technical and Artistic Vocational Studies
Ranisavljev Ph.D.	Belgrade, Department of High Textile School for DTM
Mirjana Reljić Ph.D.	Institut CIS Srbije, Belgrade
Nenad Ćirković Ph.D.	Faculty of Technology, Leskovac
Nebojša Ristić Ph.D.	Academy of Vocational Studies South Serbia, Department of Technological and Artistic Studies, Leskovac
Milovan Vuković Ph.D.	Technical Faculty, Bor
Bruno Završnik Ph.D.	Faculty of Economics and Business, Maribor
Goran Demboski Ph.D.	Ss. Cyril and Methodius University in Skopje
Gizem Karakan Günaydin Ph.D.	Pamukkale University, Faculty of Architecture and Design, Department of Textile and Fashion Design, Denizli, Turkey
Isak Karabegović Ph.D.	Academy of Sciences and Arts of Bosnia and Herzegovina
Svjetlana Janjić Ph.D.	Faculty of Technology, Banja Luka, Bosna i Herzegovina
Sanja Risteski, Ph.D.	University „Goce Delchev“ Faculty of technology, Shtip, North Macedonia
Damjana Celcar Ph.D.	Faculty of Design, Ljubljana, Slovenia
Andreja Rudolf	Faculty of Mechanical Engineering, Maribor
Liliana Indrie Ph.D.	Faculty of Energy Engineering and Industrial Management, University of Oradea, Romania
Zlatina Kazlacheva Ph.D.	Faculty of Technics and Technologies, Trakia University, Bulgaria
Elsayed Elnashar Ph.D.	Faculty of Specific Education, Kafrelsheikh University, Egypt
Panagiotis Kyratsis, Ph.D.	University of Western Macedonia, Greece
Nuno Belino Ph.D.	University of Beira Interior, Faculty of Engineering, Covilhã, Portugal
Boris Mahltig Ph.D.	Hochschule Niederrhein, Faculty of Textile and Clothing Technology Monchengladbach, Germany
Svitlana Arabuli	Kyiv National University of Technologies and Design, Kyiv, Ukraine
Emilia Visileanu Ph.D.	Nacional Research and Development Insitute for Textiles and leather, Bucharest, Romania
Vineta Srebrenkoska Ph.D.	University „Goce Delchev“ Faculty of technology, Shtip, North Macedonia
Maja Jankoska, Ph.D.	Ss. Cyril and Methodius University in Skopje, North Macedonia

CONTENT

Editorial Council	3
Huan Lu, Boris Mahltig	
FUNCTIONALIZATION OF TEXTILE MATERIALS BY USING COPPER-CONTAINING COATINGS AND PIGMENTS	4
Antonina Zaiets, Olga Andreyeva	
DETERMINATION OF RATIONAL PARAMETERS OF LIQUID FINISHING OF LEATHER SEMI-FINISHED PRODUCT USING ACRYLIC POLYMER AND MODIFIED FATS	11
Gizem Karakan Günaydin, Mine Akgün, Erhan Kenan Çeven, Nejla Çeven	
INVESTIGATION OF SOME SURFACE ROUGHNESS PROPERTIES OF WOVEN FABRICS PRODUCED WITH SUSTAINABLE YARNS	21
Damjana Celcar, Veronika Gruden Bole	
THE ROLE OF CONSUMER PERCEPTION AND PURCHASING BEHAVIOUR IN THE PROCESS OF DESIGNING SLEEPWEAR PRODUCT PASSPORT	30
Md Alimul Razy Nilanto, Md Nazrul Islam, Sayed Morsalin, Md Sharif Ahmed, Shadman Ahmed Khan	
INVESTIGATION OF MARKER EFFICIENCY COMBINING DIFFERENT SIZE GARMENTS IN THE MARKER AND USING DIFFERENT WIDTH MATERIALS	40
Milica Vlahović, Nenad Vušović, Miljan Vlahović, Slavica Mihajlović, Darja Žarković	
OPTIMIZING TEXTILE EFFLUENTS TREATMENT: FROM CONVENTIONAL TO CUTTING-EDGE SOLUTIONS	46
Nenad Lukić, Olivera Ćosović	
BRAĆA R. PIJADE HOSIERY FACTORY	59
News and information	65
Instructions for authors	77



THE MINISTRY OF SCIENCE, TECHNOLOGICAL
DEVELOPMENT AND INNOVATION OF THE REPUBLIC OF
SERBIA PARTICIPATED IN FINANCING OF THE JOURNAL

REČ UREDNIKA

Kao i ranijih godina, i ova VII Međunarodna naučna konferencija „Savremeni trendovi i inovacije u tekstilnoj industriji“ održala se u Domu inženjera „Nikola Tesla“. Ponosni smo što naš Dom inženjera nosi ime poznatog i priznatog naučnika, jednog od najblistavijih umova čovečanstva, kao i na činjenicu da je Nikola Tesla prvi počasni član Udruženja srpskih inženjera. Udruženje srpskih inženjera prva je institucija koja 1892. godine dodelila priznanje Nikoli Tesli za njegov naučni rad i ostvarene rezultate. Upravni odbor Udruženja srpskih inženjera je u junu 1892. godine tokom boravka Nikole Tesle u Beogradu, primio Teslu za svog prvog počasnog člana. Njegova zaostavština i urna sa pepelom nalaze se u Teslinom muzeju u Beogradu.

Učesnici konferencije „Savremeni trendovi i inovacije u tekstilnoj industriji“, većinom iz inostranstva, su u okviru svojih aktivnosti i obilaska grada Beograda organizovano posetili Muzej Nikole Tesle i upoznali se sa životom i delom ovog slavnog srpskog naučnika. Muzej ima stalnu postavku, jedan deo je posvećen životu i radu Nikole Tesle, a u drugom je predstavljen razvoj nauke o elektricitetu i magnetizmu. Najzanimljiviji deo postavke je sa autentičnom dokumentacijom i radnim modelima Teslinih izuma uz puštanje u rad fantastičnih eksponata. Takođe, učesnici konferencije su bili u prilici i da pogledaju i kratak dokumentarni film o životu Nikole Tesle.

Nadam se da ćemo i narednih godina učesnicima konferencije moći sa ponosom da pokažemo naš grad i da posetimo još neku ustanove kulture.

Glavni i odgovorni urednik
Prof. dr Snežana Urošević