

## **13th International Scientific and Professional Conference**

### **TEXTILE SCIENCE AND ECONOMY – TSE 2020**

13<sup>th</sup> scientific-professional symposium Textile Science and Economy 2020 – TSE 2020, which was postponed due to the pandemic caused by the COVID-19 virus, was held on September 18, 2020, organized by the University of Zagreb Faculty of Textile Technology. Given the unfavourable epidemiological situation in many countries around the world, including the Republic of Croatia, the Symposium was held as a video conference.

This year's symposium is organized as a Chinese-Croatian forum, encouraged by the established scientific and bilateral cooperation between the scientists from the University of Zagreb Faculty of Textile Technology and the Zhejiang University as well the College of Textile and Clothing Engineering, Soochow University in China, who was also a co-organizer of the conference. In this sense, we have further chosen the Confucius institute at the University of Zagreb as a partner in the organization of the Symposium. The main role of the Confucius institute in Croatia is to promote the Chinese language and culture, thus to strengthen the economic bond between the Republic of Croatia and the People's Republic of China. The technical support for the organization of the videoconference was provided by the Croatian Academic and Research Network, also as a partner.

This year's symposium was held under the auspices of the umbrella state institutions, one international and other Croatian associations, important for the Textile and Leather sector: Republic of Croatia Ministry of Science and Education, University of Zagreb, Ministry of Economy and Sustainable Development, BASTE – Balkan Society of Textile Engineers, Croatian Academy of Engineering, Croatian Chamber of Economy, Croatian Chambers of Trades and Crafts, Croatian Employers' Association, Croatian Engineering Association, Croatian Association of Textile Engineers and Croatian Leather and Footwear Society.

The Organizing Committee of the TSE 2020 symposium especially expresses its gratitude to the sponsors and donors who, in this extremely difficult time for the economic sector, helped the organization of the TSE 2020 symposium with their support: Competitiveness Cluster of Textile, Leather Goods and Footwear Industry, Čateks d.d., Croatian Chamber of Economy, Chamber of Economy Zagreb, Tekstilpromet d.d., Jelen Professional d.o.o., Textile fancy goods Panić, Coca-Cola HBC Croatia d.o.o. and Winery Šafran.

The main topic of the symposium was "Innovation, Design and Digitization in the Textile and Leather Sector", which is also promoted by the strategies of the European Union and has also opened the possibility of presenting the latest scientific and technological achievements, the potential for their commercialization and development trends through an interdisciplinary approach at the global level, as directions for future Textile and Leather sector's development. The aim of the conference in this regard was to acquaint the conference participants with current research directions in the field of innovative textile materials, digital technologies and innovations in the field of textile and clothing technology, as well as modern business strategies. Also, the challenges faced by Textile and leather sector industry in the face of a global pandemic were articulated.

The Conference was held simultaneously within three virtual rooms.

#### **VIRTUAL ROOM A**

A central virtual room within which the Symposium was opened with a welcome speeches by the dean of the University of Zagreb Faculty of Textile Technology prof. dr. sc. Gordana Pavlović and president of the Organizing committee prof. dr. sc. Slavenka Petrak. The participants of the conference were further greeted by distinguished guests and government officials: president of the Commission for innovation and technology transfer University of Zagreb and dean of the Faculty of Transport and Traffic Sciences

prof. dr. sc. Tomislav Josip Mlinarić, mr. Hrvoje Meštrić on behalf of the Minister prof. dr. sc. Radovan Fuchs and the Ministry of Science and Education, founder of the international association BASTE - Balkan Society of Textile Engineers prof. dr. sc. Savvas Vassiliadis, state secretary mr. Mario Antonić, on behalf of the Ministry of Economy and Sustainable Development and rector of the University of Zagreb prof. dr. sc. Damir Boras.

14 invited lectures were held by eminent scientific and professional experts from seven countries, who have given lectures on nowadays' hot scientific research topics, on the economic sector challenges during the global pandemic and some guidelines for a possible growth. The same are based on the implementation of innovations in the development processes, important for the economy, digitalization of business processes, networking as well as challenges and opportunities of the digital age, in terms of global economy, with special attention given to China, as the world's largest market and economic superpower of the 21st century.

Several presentations highlighted the importance of new media, characteristic of the digital age in which we live and work, as well as the fact that the digital age brings the need to transform the traditional economy, based on the industrial revolution, to an economy based on information and computer data. The economy of the 21st century is facing new challenges in the field of entire business digital transformation, as well as product development, based on innovation. The digital transformation implies a thorough and fast transformation of the business, processes, capabilities and models, with the aim to fully exploit the possibilities of digital technologies and their impact on the economy, but also on the society as a whole. In this regard, the need to encourage activities that will positively contribute to defining guidelines for the development of a strategy for future growth and sustainability of the Textile and Leather sector in the Republic of Croatia, emphasizing the business digitalization, network marketing and strengthening the business segment becomes imperative for future growth and Sector development.

#### VIRTUAL ROOM B

Three national scientific research projects financed by the Croatian Science Foundation, led by distinguished professors at the University of Zagreb Faculty of Textile Technology, were presented. The research areas of the presented projects follow the trends of relevant world research in the field of development and thermal properties of intelligent clothing, comfort and antimicrobial properties of textiles and footwear, and in the field of tissue cell culture by combined electrospinning.

This was followed by an economic block, within which some of the Croatian companies from the Textile and Leather sector, which have been long-term associates of the University of Zagreb at the Faculty of Textile Technology, presented themselves emphasizing successfully implemented projects, joining in different associations and long-term mutual support in various activities important for the development of the entire Sector. The goal of their promotional presentation during the video conference was aimed precisely at presenting opportunities and manufacturing programs to the wider international community, with the potential to establish new business opportunities. Some of the former students of the University of Zagreb Faculty of Textile Technology, also presented themselves as successful young entrepreneurs.

## VIRTUAL ROOM C

At the beginning, the participants were greeted by the head of the Council of the doctoral study Textile Science and Technology, prof. dr. sc. Budimir Mijović and a film about doctoral studies study Textile Science and Technology was presented. Since this year's PhD Students Day of doctoral study Textile Science and Technology was combined with the Textile Science and Economy Symposium, PhD students presented their current research within the virtual room C, highlighting scientific research areas of their mentors, professors at Faculty of Textile Technology. Several doctoral students from the Technical University of Lodz, Poland and the Faculty of Electrical Engineering and Computing, University of Zagreb also presented their research areas.

Oral presentations within all three virtual rooms were complemented by cultural and artistic program, whereby student workpieces in the field of fashion, textile and costume design were presented, inspired by Chinese culture and tradition and created under the mentorship of professors at the Department of Textile and Fashion Design, University of Zagreb Faculty of Textile Technology. The workshop on Chinese calligraphy, the art of writing Chinese characters with a brush and ink on rice paper held by Qu Kaixin, a professor at the Confucius Institute at the University of Zagreb, and a musical performance by professor Si Junmei on a traditional Chinese guzheng instrument, especially stood out.

Numerous scientists and experts from the international scientific community and the Republic of Croatia (total of nine countries), as well as prominent experts, have contributed to the symposium TSE 2020 by submitting their scientific, review or professional papers. A total of 55 papers were accepted, with a total of 124 authors and co-authors. Papers were evaluated through an international review process, in which members of the scientific committee participated, as well as many other respected scientists from the international academic community giving total of a 50 reviewers from 12 countries who participated in the review process. The Book of Proceedings is published on the TSE 2020 symposium official website.

Given that this year's Symposium was held as an international video conference for the first time, in addition to the numerous participants who actively participated in the symposium realization within the virtual rooms, public monitoring of the video conference was provided via a live stream through TSE 2020 official website <http://tztg.ttf.unizg.hr/>, TTF official website <https://www.ttf.unizg.hr/> and YouTube channels. The video conference was followed by more than 700 participants from a number of countries around the world, from the international academic community, the economic sector, state institutions and participants from the field of vocational education, Textile and leather sector.

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