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**XVIII INTERNATIONAL CONGRESS**  
**WINTER SESSION**  
**“MACHINES. TECHNOLOGIES. MATERIALS”**  
**10–13.03.2021 BOROVELTS, BULGARIA**



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**ORGANIZER**  
**SCIENTIFIC-TECHNICAL UNION OF MECHANICAL ENGINEERING BULGARIA**  
**«INDUSTRY-4.0»**

**CO-ORGANIZERS**  
Federation of the Scientific-Technical Unions in Bulgaria  
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**WITH THE SUPPORT OF**

**1. National Scientific-Technical Societies:**

- *Society of Foundry*
- *Metal Science and Heat Treatment Society*
- *Automation of Discrete Production Society*
- *Bulgarian Society of Non-Destructive Testing*
- *Gear Transmissions and Driving Society*
- *Plastic Deformation and Destructive testing*
- *Plastics in Mechanical Engineering Society*
- *Society of Powder Metallurgy and Composite Materials*
- *Management and Engineering Society*
- *Ergonomics and Industrial Design Society*
- *Industrial Informatic Society*

**2. Bulgarian Welding Society**

**3. Bulgarian Society of Robotics and Mechatronics**

**4. Bulgarian Society of Tribology**

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## INVITATION

Dear Colleagues,

The winter session of XVIII International Congress "**MACHINES, TECHNOLOGIES, MATERIALS**" will be held from 10<sup>th</sup> to 13<sup>th</sup> March, 2021 in the resort "Borovets" in Rila Mountain, as a comprehensive scientific-technical event, which includes three main topics. The Congress program includes also seven special congress sub-sections.

We invite the scientists and the researchers to present the results of their research works before the academic society and the industry representatives and to publish them in the international scientific magazines, issued by the Scientific-Technical Union of Mechanical Engineering.

We invite the companies to introduce their high-tech products and services, offered on the market, by presentations at the conference sessions and advertisements in the conference documents.

We hope the Congress **MTM'21** will play a leading role as an innovation mediator between the scientific research and industry and we offer you to take advantage of this opportunity.

The congress program will give you the chance to find new friends and ideas, to relax, to amuse, and to feel the charm of the splendid winter in the mountains.

**Prof. D.Sc. DHC Georgi Popov,**  
**President of Bulgarian Scientific-Technical Union of Mechanical Engineering,**  
**Chairman of the International Program Committee**

## SCIENTIFIC PROGRAM

### TOPICS

#### 1. MACHINES:

Design and Construction. Rapid Prototyping. Manufacturing. Investigation and Testing. Exploitation, Maintenance and Repair. Modernization. Recycling and Utilization. Life Cycle Engineering. Re-Engineering. Training.

#### 2. TECHNOLOGIES:

Metal Casting, Plastic Deformation, Welding, Soldering and Adhesive Bonding, Machining. Surface Treatment. Changing of Properties. Testing, Measurement and Control. Mathematical modeling of technological processes. Automation. Logistic. Load Treatment. Management and Engineering. Energy Saving and Environment Friendly Technologies. Training.

#### 3. MATERIALS:

Materials Science. Metal Materials, Non-Metal Materials, Tool Materials, Construction Materials, Accessory Material. Composites. Training.

### SPECIAL CONGRESS SUB- SECTIONS

1. POWER TRANSMISSIONS 2021 (mechanical, electrical, hydraulic and pneumatic)
2. INDUSTRIAL DESIGN ENGINEERING & ERGONOMICS 2021
3. INDUSTRIAL INFORMATICS & MATHEMATICAL MODELING 2021
4. KNOWLEDGE. CREATIVITY. INNOVATIONS 2021
5. INDUSTRIAL MANAGEMENT 2021
6. NANOMATERIALS 2021
7. BULTRIB 2021

**The official language of the Congress MTM'21 is English.**

## CALL FOR PAPERS

Scientists from all over the world are kindly invited to present the results of their researches in the plenary, section and poster sessions or in the special congress sub-sections.

Companies, offering machines, materials, technologies and services on the market, are also invited to present practical results in accordance with the congress topics in the form of company presentations and advertisement at the congress halls and in the congress printed issues.

**Paper's abstract** up to 200-350 words, **written in English**, in .doc or .docx format, with up to 10 keywords, authors' names and titles, occupation and e-mail address, together with the Author's Response ([Form A](#)) or the [online registration](#) has to be sent to the Organizing Committee not later than **15.12.2020**.

The Author's response Form A will be registered in the section ["Received Abstracts and Papers"](#) of the congress web-site and a registration number will be given the paper. The Organizing Committee recommended the authors use this registration number in the further correspondence and if the files sent also begin with this number and the phrase **"mtm21-w"**. For example: **131\_Spenser\_mtm21-w.doc**.

Only papers formatted in accordance with the [graphical](#) and [text](#) instructions, accepted peer-reviewed and presented at the oral and poster congress sections will be published.

**The full text papers** up to 4 pages, written in English, must be sent not later than **31.01.2021** by email, together with the Application form for participation ([Form B](#)) or [online registration](#). The name of the paper's file has to consist of the registration number, author's name and the phrase **"mtm21"**. For example: **"131\_Spenser\_mtm21-w.doc"**

**If the authors cannot participate personally in the Congress, they can participate in the poster session.** In that case the author should pay only the publication fee and the paper will be published in the congress journals. The poster papers have to be formatted according to the poster [graphical](#) and [text](#) instructions. They should be sent by e-mail until **01.03.2021** so the papers could be presented at the Congress. The Organizing Committee takes the obligation to print the poster and to include it in the poster session.

All instructions can be found on the congress website: <http://mtmcongress.com> An example of the title page can be downloaded there, so the authors could write easy the whole paper according to the requirements.

## PUBLICATIONS

All papers included in the congress scientific program will be published as follows:

- **All reports** submitted on the Bulgarian, Russian, English or German: in a separate volume **„International Scientific Congress „Machines.Technologies.Materials” - ISSN 2535-0021 (Print), ISSN 2535-003X(Online)”** for each thematic session;
- **CD** containing all the papers;
- **Papers written in English:** in the separate issue of the international scientific journals ([www.stumejournals.com](http://www.stumejournals.com)) according to the themes of the reports:
  - "[Machines.Technologies.Materials](#)" (Print ISSN 1313-0226, Web ISSN 1314-507X)
  - "[Innovations](#)" (Print ISSN 1314-8907, Web ISSN 2534-8469)
  - "[Materials Science. Non-Equilibrium Phase Transformations](#)" (Print ISSN 2367-749X, Web ISSN 2534-8477)
  - "[Science.Business.Society](#)" ( Print ISSN 1313-0226, Web ISSN 2534-8485)
  - "[Industry 4.0](#)" (Print ISSN 2534-8582, Web ISSN 2534-8582)

## FEES AND PAYMENTS

TYPE OF FEE	EURO	
	Up to 31.01.2021	After 31.01.2021
<b>1. Congress fees:</b>		
<b>1.1. Participation Fee</b> <b>Includes:</b> Published in the issue of international periodical magazine „International Scientific Congress„Machines.Technologies.Materials” - ISSN 2535-0021 (Print), ISSN 2535-003X(Online)” and in international scientific journals according to the themes of the reports, Welcome cocktail, congress materials, coffee breaks, CD with all congress contributions.	<b>200 / 120*</b>	<b>250 / 180*</b>
<b>1.2. Fee for second and third paper - only publication fee</b>	<b>90</b>	<b>130</b>
<b>2. Accompanying person (including co-authors)</b> <b>Includes:</b> Welcome cocktail , congress materials, coffee breaks	<b>110</b>	<b>150</b>
<b>3. Publication fee (For authors who cannot participate personally in the congress)</b> <b>Includes:</b> Published in the issue of International periodical magazine „International Scientific Congress„Machines.Technologies.Materials” - ISSN 2535-0021 (Print), ISSN 2535-003X(Online)” and in International scientific journals according to the themes of the reports, CD with all papers and printing of the poster paper in A1 format.	<b>90</b>	<b>130</b>
<b>4. Additional payments:</b>		
<b>4.1.</b> For receiving the printed issue of the journal at the Congress (volume with the papers).	<b>20</b>	<b>20</b>
<b>4.2.</b> For receiving the printed issue of the journal by post (volume with the papers).	<b>30</b>	<b>30</b>

\* **Reduced fee for Young scientists in 35 years.**

### OVERNIGHT STAYS

#### Hotel “ELA”\*\*\* - BOROVELTS

Price per night: single room 35 Euro, double room - 40 Euro

#### Hotel “RILA”\*\*\*- SOFIA

Price per night: single room 40 Euro, double room - 50 Euro

### PAYMENTS

**Bank transfer** to the account of the Scientific and Technical Union of Mechanical Engineering at ProCredit Bank:

**IBAN: BG53 PRCB 9230 1449 8985 01, BIC: PRCBBGSF**

**Beneficiary: NTS Mashinostroene “Industry-4.0”.**

Please write in the payment document “**MTM’21-W**” and your registration number which you may find here: <http://www.mtmcongress.com> in the section “[Received abstracts and papers](#)”

**In cash** at the office of the Scientific and Technical Union of Mechanical Engineering: 1000 Sofia, 108 “G. S. Rakovski” str. Office №411.

**All bank charges related to the transfer are borne by the participant.**

## GENERAL INFORMATION

### THE VENUE

#### Hotel Ela

Registration, opening, plenary and sectional sessions: **Hotel Ela (Fir-tree)\*\*\***

Address: Samokov, Borovets resort, Hotel Ela

### ACCOMODATION

#### Hotel Ela (Fir-tree)\*\*\* at the Borovets winter resort

The Borovets winter resort is located at 1350 m above the sea level on the northern slopes of the Rila mountain, 70 km southeasterly from Sofia and 10 km from the town of Samokov. The climate of the resort is temperate, the winter is mild with loads of snow. The average temperature in January – the coldest month is minus 4,8 C°. Usually the ski season starts in the middle of December and closes in April.

Hotel Ela is located in the ideal centre of the Borovets winter resort. The hotel is situated close to the gondola lift station for Yastrebets and the Musala peak (2925 m) and 300 m from the drag lifts.

Visual information about the resort "Borovets" can be found at:

<https://www.youtube.com/watch?v=WUMNYPQ5W1Y>

<https://www.youtube.com/watch?v=GjRGThSNEA0>

Address: Samokov, Borovets resort, Hotel Ela

In case you travel by car, you can use the GPS coordinates of Hotel Ela:

GPS - 42.26757 , 23.60381

[City Transport to Hotel Ela](#)

From Sofia Airport by underground to Joliot-Curie station. The South coach station is located 50 m in the south of the underground station, under the bridge of Dragan Tsankov boulevard. The buses for Samokov depart every 30 minutes.

The travel duration is 1 hour approximately. Ticket price - 5.00 leva.

Minibuses depart every 30 minutes to the Borovets resort at the Samokov coach station, sector No.2.

The travel duration is 10-12 minutes approximately. Ticket price - 1,30 leva. First bus departs for Borovets resort at 7:00 a.m., and the last one at 7:00 p.m. Taxi fare from Samokov coach station to Hotel Ela: 10-12 leva.

Hotel Ela is located 20 m from the last station, in reverse direction of arrival.

[Hotel Rila – City of Sofia](#)

A lodging for the night in Hotel Rila, Sofia is reserved for congress participants, who would like to sightsee Sofia, or the transport connections do not allow an immediate departure to the Borovets resort.

The Hotel Rila is located at the exact centre of Sofia, very close to the Serdika underground station.

From Sofia Airport by underground to Serdika station. At 150 meters southeast is located Hotel Rila.

Address: Sofia, 6, Tsar Kaloyan St., Hotel Rila.

## TIME TABLE

**10.03.2021 (Wednesday)** Registration of the participants.

**11.03.2021 (Thursday)** Opening ceremony 10:00. Plenary session. Congress sessions. Special Congress Sub-sections. Poster session. Welcome party.

**12.03.2021 (Friday)** 09:00 Congress sessions. Closing of the Congress.

**13.03.2021 (Saturday)** Departure of the participants.

## REGISTRATION

In the lobby of the Hotel ELA - Borovets

**10.03.2021** from **16:00** to **20:00** and

**11.03.2021** from **08:00** to **10:00**.

## ENTRY TO BULGARIA

Visitors from the European Union coming to Bulgaria need an identity document.

Visitors from other countries require an entry visa.

Visitors are recommended to contact the Bulgarian Embassy (you can find them on:

<http://www.mfa.bg/en/>) or Consulate in their own country for information on visa requirements. If an official letter of invitation is requested, please contact the Congress Secretariat in due time (before the registration deadline).

## TIME

Bulgaria is in the Eastern European Time Zone (GMT+2)

## WEATHER

Average air temperature in the period 10 - 15 March, 2020 – minus 3,4 °C.

Snow cover out on the slopes during the period: on 10 and 13.03.2020 - 180 cm

Check the weather in real time here: <http://weather.bg/indexen.php>

### **CURRENCY**

The official currency is the lev (plural: leva).

1 euro = 1.95583 lev

All major credit cards (e.g. VISA, MasterCard, Eurocard) are usually accepted in Bulgaria

### **EMERGENCY SERVICES**

Uniform European telephone number for emergency situations: **112**

### **DEADLINES**

The Abstract of the paper and Author's Response <a href="#">Form "A"</a> or <a href="#">online registration</a> should be sent up to	15.12.2020
The Full text of the paper(s) and Participation <a href="#">Form "B"</a> or <a href="#">online registration</a> should be sent up to	31.01.2021
Payment of the Congress fees	31.01.2021
Announcement of the Congress program on the web page: <a href="http://www.mtmcongress.com/winter/1.xls">http://www.mtmcongress.com/winter/1.xls</a>	01.03.2021
The Organizing Committee will receive posters up to	01.03.2021
Registration of the participants from 16:00 to 20:00	10.03.2021
from 08:00 to 10:00	11.03.2021
Opening of the congress 10:00	11.03.2021
Departure of the participants	13.03.2021

### **CONGRESS SECRETARIATE**

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