

IV International Scientific and Practical Conference

«Development and design of modern materials and products»



PROGRAM
Dnipro, Ukraine
November 19th-20th, 2025

Dear colleagues!

Scientific society: employees of higher educational institutions and research institutes, including graduate students and students, as well as representatives of organizations and firms engaged in the field of knowledge-intensive business, welcome you to the **4th International Scientific and Practical Conference "Development and Design of Modern Materials and Products"**, organized on the basis of the Engineering and generative Design Department Dnipro University of Technology.

We are organizing a conference in the context of the Russian-Ukrainian war, which changed everything not only in Ukraine, in Europe, but also in the whole world.

We hope that such a conference is another opportunity to gather scientists from different directions and countries of the world, with the aim of preserving global scientific unity in such difficult conditions.

We are sure that the results of our joint work will be interesting and useful for all participants of the conference and will serve to solve modern problems of the world scientific community.

CONFERENCE ORGANIZERS

- Dnipro University of Technology (Dnipro, Ukraine),
- Institute of Electric Welding named after E.O. Paton National Academy of Sciences of Ukraine (Kyiv, Ukraine),
- Institute of Ferrous Metallurgy. Z.I. Nekrasov National Academy of Sciences of Ukraine (Dnipro, Ukraine)
- KTH Royal Institute of Technology (Stockholm, Sweden)
- Freiberg University of Mining and Technology (Freiberg, Germany)
- Lutsk National Technical University (Lutsk, Ukraine)

PROGRAMM

NOVEMBER 19 9:15 AM – 4:00 PM – PLENARY MEETING

09:00– 09:15– Registration of conference participants on the Microsoft Teams platform.

09:00 – 9:15– Реєстрація учасників конференції на платформі Microsoft Teams.

Speaker of the meeting

professor **Dmytro LAUKHIN**

Moderators

associate professor **Nataliia ROTT**
Ilya VERNER

Microsoft Teams event
link

https://teams.microsoft.com/l/meetup-join/19%3ameeting_MWU5Nzg2MTQtYzMwMy00YzJlLTg2MjYtMDMxZWVmMmFmMDFl%40thread.v2/0?context=%7b%22Tid%22%3a%226cbb82a7-8f8b-4e21-8922-e8dd1f03e636%22%2c%22Oid%22%3a%22fcfcfddf-6d37-4c63-a26b-5e111a1966cb%22%7d

09:15– 9:20 – Ceremonial opening of the international conference "Development and design of modern materials and products"

9:20 – 09:25– welcome speech of the rector of Dnipro University of Technology, professor **Oleksandr AZIUKOVSKIY**

09:25- 09:30 - welcome speech of the head of the Engineering and Generative Design Department **Serhii FEDORIACHENKO**

09:30 Act speech of conference participants

The schedule of the report is up to 10 minutes.

09:30 - 09:50 «*Materials science aspects of creating environmentally friendly water-repellent materials for waterproof clothing using bionic principles*» **UVAROVA Darina, MATSIUK Iryna, SAZANISHVILI Zoia**, Dnipro University of Technology

09:50 - 10:00 «*Design of a transformer shelf using eco-materials*» **Sydorenko Nazar, FEDOSKINA Olena, MATSIUK Iryna**, Dnipro University of Technology

10:00 - 10:10 «*Development and research of budget refractory composite materials based on titanate-silicate compounds*» **SAVYTSKYI Ivan, MATSIUK Iryna**, Dnipro University of Technology

10:10 - 10:20 «*Using nanomaterials in creating breathable walls for interior design*» **SHAPOCHKA Sofiia, MATSIUK Iryna, TVERDOKHLIB Oleksander**, Dnipro University of Technology

10:20 - 10:30 «*Engineering solutions and choice of materials for the multifunctional furniture module-transformer «sofa-table»*» **VOZNIUK Ihor, FEDOSKINA Olena, MATSIUK Iryna**, Dnipro University of Technology

10:30 - 10:40 «*Using renewable and recycled materials in transformable furniture design*» **RUDENKO Valerii, FEDOSKINA Olena, MATSIUK Iryna**, Dnipro University of Technology

10:40 - 10:50 «*Virtual reality laboratories for studying*» **HOLUBIEVA Anastasiia, SAZANISHVILI Zoia**, Dnipro University of Technology

10:50 - 11:00 «*Study of the electrical conductivity of nanostructured biomaterials*» **ANDRIIUK Valeriia, SAZANISHVILI Zoia**, Dnipro University of Technology

11:00 - 11:10 *«Improvement of the document management system at an automotive enterprise taking into account modern requirements for operational and maintenance materials»* **KRIVDA Vitalii, KHOLOD Diana**, Dnipro University of Technology

11:10 - 11:20 *«Autoclave material based on iron ore benefit tails»* **POVZUN Oleksiy, KALYNYCHENKO Valeriy**, Donetsk National Technical University

11:20 - 11:30 *«Modification of sun protection coating for roofs of small-sized buildings»* **Romanets Maria, SAZANISHVILI Zoia, MATSIUK Iryna**, Dnipro University of Technology

11:30 - 11:40 *«General characteristics of technological schemes for the production of low-carbon low-alloy steels and ensuring the formation of a bainite structure»* **LAUKHIN Dmytro, BEKETOV Oleksandr, LAKSHA Vitalii, OPANASENKO Andrii, PACHKOVSKY A.**, Dnipro University of Technology, SEI “Prydniprovsk State Academy of Civil Engineering and Architecture”

11:40 - 11:50 *«Main features of the shear mechanism for forming the structure of rolled metal from low-carbon, low-alloy steels»* **BEKETOV Oleksandr, NESTERKIN Oleksandr, KUZNETSOV Serhii, MAMCHUR Denys, Moseychenko D.**, SEI “Prydniprovsk State Academy of Civil Engineering and Architecture”

11:50 - 12:00 *«Comprehensive analysis of structural-phase transformations, dislocation configuration, and degradation mechanisms of welded joints in low-carbon microalloyed steels under the influence of static loading»* **LAUKHIN Dmytro, BEKETOV, LAKSHA Vitalii Oleksandr, OPANASENKO Andrii, PACHKOVSKY A.**, Dnipro University of Technology, SEI “Prydniprovsk State Academy of Civil Engineering and Architecture”

12:00 - 12:10 «General fracture characteristics of low-carbon, low-alloy steel»
LAUKHIN Dmytro, BEKETOV Oleksandr, TYKVENKO Pavlo, RADKO Oleksandr, ZINNER V., Dnipro University of Technology SEI “Prydniprovsk State Academy of Civil Engineering and Architecture”

12:10 - 12:20 «Determination of the dependence of the structural-phase composition, dislocation density, and fracture criteria of the heat-affected zone in low-carbon steels on the base metal cooling kinetics» **LAUKHIN Dmytro, BEKETOV, LAKSHA Vitalii Oleksandr, OPANASENKO Andrii, PACHKOVSKY A.**, Dnipro University of Technology, SEI “Prydniprovsk State Academy of Civil Engineering and Architecture”

12:20 - 12:30 «Establishing the interrelation between heat treatment and the weld metal alloying system with the structural-phase composition, dislocation structure, and fracture behavior of welded joints in low-carbon microalloyed steels», **BEKETOV Oleksandr, NESTERKIN Oleksandr, KUZNETSOV Serhii, MAMCHUR Denys, MOSEYCHENKO D.**, SEI “Prydniprovsk State Academy of Civil Engineering and Architecture”

12:30 - 12:40 «Techno-Economic Justification for Wide-Scale Integration of Green Roofs in New Buildings to Improve Urban Environmental Conditions»
DADIVERINA Liliia, BONDARENKO Volodymyr Dnipro University of Technology, LLC Budivnyk VV, Dnipro

NOVEMBER 27 2:00 PM – 4:00 PM – MASTER CLASS

Modern Trends in Additive
Manufacturing Product Design from
Concept to Functional Product
SAZANISHVILI Zoia

https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZDUwNzE2ZjYtOGRlMS00OTNmLTgyZDctYTM5ZjhjNDc0N2Jk%40thread.v2/0?context=%7b%22Tid%22%3a%226cbb82a7-8f8b-4e21-8922-e8dd1f03e636%22%2c%22Oid%22%3a%22fcfcfddf-6d37-4c63-a26b-5e111a1966cb%22%7d

Dear participants and guests of the 4th International Scientific and Practical Conference "Development and Design of Modern Materials and Products"

We wish you fruitful work, pleasant online meetings and a successful conference!

***Sincerely, the Conference
Organizing Committee***