

Ministry of Education and Science of the Russian Federation



**RUSSIAN FOUNDATION FOR BASIC
RESEARCH**



TAMBOV STATE TECHNICAL UNIVERSITY

PROGRAM

**IV INTERNATIONAL
SCIENTIFIC AND TECHNICAL CONFERENCE
OF STUDENTS, RESEARCHERS AND SPECIALISTS**



«ENERGY-SAVING AND EFFICIENCY IN TECHNICAL SYSTEMS»

**Conference is organized with the financial support of the Russian Foundation
for Basic Research
Project № 17-08-20296 Г**

**Tambov
July 10-12, 2017**

Conference chairman

Chernyshova T.I. – Director of Institute of Power Engineering, Tool Engineering and Radioelectronics, TSTU, Doctor of Technical Sciences, Professor (Tambov, Russia)

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Kuzmin S.N. – Candidate of Technical Sciences, Assistant Professor of Tambov State Technical University» (Tambov, Russia).

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Executive Secretary

Moskvitin S.P. - Candidate of Technical Sciences, Assistant professor of Tambov State Technical University» (Tambov, Russia)

IV International Scientific and Technical Conference of students, researchers and specialists “Energy-saving and Efficiency in Technical Systems” is an effective platform for the development of the best domestic and foreign methodological and scientific achievements by young researchers, scientists and specialists in the field of the following scientific problems:

- Energy-saving in design of electronic and electrotechnical systems for various purposes;
- Nanomaterials – the basis of efficient energy-saving systems;
- Micro and nanoelectronics;
- Alternative energy;
- Distributed energy;
- Methodology of energy-saving management systems design;
- Information technologies in design of efficient technical systems for various purposes;
- Efficient biotechnical systems.

Conference is organized in five sections:

Section 1. Energy-saving and information technologies in technical systems design.

The section will include 21 oral and 6 poster presentations on the following topics:

- methodology and algorithms of energy-saving control;
- intelligent energy-saving information-measuring and control systems;
- efficiency and quality of technical systems;
- peculiarities of the application of effective information technologies in technical systems design.

Section 2. Current issues of heat power engineering and heat technology.

The section will include 14 oral and 5 poster presentations on the following topics:

- efficiency of heating systems and ways of improvement;
- advanced technologies in heat power engineering;
- information technologies in heat power facilities design;
- algorithms for calculating the objects thermophysical characteristics.

Section 3. Energy-saving in electric power engineering.

The section will include 14 oral and 5 poster presentations on the following topics:

- improvement of reliability and quality of electric power supply;
- electric power loss in circuits;
- alternative energy sources and their application;
- energy-saving technologies in housing and utilities sector;
- efficiency improvement and noise immunity of power systems.

Section 4. Control methods and means in efficient technical systems.

The section will include 18 oral and 6 poster presentations on the following topics:

- methods of improvement technical systems quality;
- information technologies in radio signals characteristics calculation;
- methods of materials and products non-destructive quality control and their efficiency improvement.

Section 5. Efficient biotechnical systems.

The section will include 14 oral and 5 poster presentations on the following topics:

- information technologies application in biomedical research;
- modeling of the cardiovascular system and circulatory systems in assessing human health;
- contemporary trends in biotechnical systems development.

CONFERENCE PLAN

Venue: 1, Leningradskaya str., Conference Hall APTECH

Monday, July 10, 2017

9:00 – 9:50		REGISTRATION OF PARTICIPANTS
9:50 – 10:00	Opening ceremony	
Conference Hall APTECH <i>1, Leningradskaya str, Bld. «L» TSTU</i>	KRASNYANSKIY Mikhail Nikolaevich – Doc. of Tech. Sc., Professor, Rector of Tambov State Technical University, Tambov, Russia	
	CHERNYSHOVA Tatiana Ivanovna – Doc. of Tech. Sc., Professor, Director of Institute of Power Engineering, Tool Engineering and Radio Electronics, Tambov State Technical University, Tambov, Russia	
	INIESTA Valcarcel Jesus – Ass. Prof., Department of Physical Chemistry, University of Alicante, Spain	
	DIETER Liepsch – Prof. Dr.-Ing. habil, Department of Building Services Engineering, Munich University of Applied Sciences, Munich, Germany	
	SYSHIKOV Vladimir Aleksandrovich – Deputy General Director, Director of Affiliate PJSC «MPCK Center» - «Tambovenergo», Tambov, Russia	
	PISAROGLO Maxim Viktorovich – General Director of municipal unitary enterprise "TAMBOVTEPLOSERVICE", Tambov, Russia	
10:00 – 14:00		PANEL PRESENTATIONS
10:00 – 10:30	A glance at smart carbon materials in electrochemical devices for energy conversion applications	
	INIESTA Valcarcel Jesus – Ass. Prof., Department of Physical Chemistry, University of Alicante, Spain	
10:35 – 11:05	Peculiarities of burning pellets from sunflower husks in a cyclone-layer combustion chamber	
	TEPLITSKIY Yuriy Semenovuch – Doc. of Tech. Sc., Professor, A.V. Luikov Heat and Mass Transfer Institute of the National Academy of Sciences of Belarus, Minsk, Belarus	
	KUZMIN Sergey Nikolaevich – Cand. of Tech. Sc., Ass. Prof., Chair “Enterprise energy supply”, Tambov State Technical University, Tambov, Russia	
11:10 – 11:40	Boosting energy efficiency education in master courses for Russian and Armenian Universities. The case of MARUEEB project	
	BIANKO Vincenzo – Ass. Prof., Department of Mechanical and Energy Engineering, University of Genova, Italy	
12:45 – 12:15	Engineering projects of XIX, XX, XXI centuries	
	PATRIKEEV Lev Nikolaevich – Cand. of Tech. Sc., Prof., National Research Nuclear University «MEPhI», Moscow, Russia	
13:00 – 14:00		LUNCH

14:00 – 17:30		PLENARY SECTIONS
14:00 – 14:40	Advanced experimental flow studies in an elastic Y-model DIETER Liepsch -Prof. Dr.-Ing. habil, Department of Building Services Engineering, Munich University of Applied Sciences, Munich, Germany FROLOV Sergey Vladimirovich – Doc. of Tech. Sc., Prof., Chair “Biomedical Engineering”, Tambov State Technical University, Tambov, Russia	
14:45 – 15:30	Integrated power and data transmission environment for creating continuous Wi-Fi access zones SAKHAROV Yuriy Serafimovich – Doc. of Tech. Sc., Prof., Academician of Russian Academy of Natural Sciences, State university «Dubna», Dubna, Russia KRYUKOV Yuriy Alekseevich – Cand. of Tech. Sc., Ass. Prof., Vice-rector for Scientific and Innovation Activities, State university «Dubna», Dubna, Russia	
15:35 – 16:10	Information-control systems with energy-intensive technological objects MUROMTSEV Dmitriy Yuryevich –Doc. of Tech. Sc., Prof., Tambov State Technical University, Tambov, Russia	
16:15 – 17:00	Sound speed in two-phase media GUBAREV Vasiliy Yakovlevich – Cand. of Tech. Sc., Prof., Lipetsk State Technical University, Lipetsk, Russia	
17:00 – 17:30	About RFBR support of young scientists research SHAKHNOV Vadim Anatolievich – Corresponding Member of the Russian Academy of Sciences, Doc. of Tech. Sc., Prof., Bauman Moscow State Technical University, Moscow, Russia	
18:00	Dinner	

Tuesday, July 11, 2017

9:00 – 17:00		Plenary Sections
Section 1		Energy-Saving and Information Technologies in Technical Systems Design
Room 333/C <i>116, Sovetskaya str., Bld. «C» TSTU</i>	CHERNYSHOV Nikolay Genrikhovich – Head of the section, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov BELOUSOV Oleg Andreevich – Scientific secretary, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov	
Section 2		Current Issues of Heat Power Engineering and Heat Technology
Room. 105/A <i>112, Michurinskaya str., Bld. «A» TSTU</i>	ZHUKOV Nikolay Pavlovich – Head of the section, Doc. of Tech. Sc., Prof., Tambov State Technical University, Tambov BALASHOV Aleksey Aleksandrovich – Scientific secretary, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov	

Section 3		Energy-saving in electric power engineering	
<i>Room. 409/E</i>	KOBELEV Aleksandr Viktorovich – Head of the section, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov	<i>112, Michurinskaya str., Bld. «E» TSTU</i>	KOCHERGIN Sergey Valeryevich – Scientific secretary, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov
Section 4		Control methods and means in efficient technical systems	
<i>Room. 367/C</i>	PUDOVKIN Anatoly Petrovich – Head of the section, Doc. of Tech. Sc., Prof., Tambov State Technical University, Tambov	<i>116, Sovetskaya str., Bld. «C» TSTU</i>	KOLTYUKOV Nikolay Aleksandrovich – Scientific secretary, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov
Section 5		Efficient biotechnical systems	
<i>Room. 414/D</i>	FROLOV Sergey Vladimirovich – Head of the section, Doc. of Tech. Sc., Prof., Tambov State Technical University, Tambov	<i>112, Michurinskaya str., Bld. «D» TSTU</i>	DUBROVIN Viktor Vasilyevich – Scientific secretary, Cand. of Tech. Sc., Ass. Prof., Tambov State Technical University, Tambov

Wednesday, July 12, 2017

9:00 – 11:00		Poster presentations	
<i>2 Floor, Hall APTECH</i>	Section 1. Energy-saving and information technologies in technical systems design.	<i>1, Leningradskaya str., Bld. «L» TSTU</i>	Section 2. Current issues of heat power engineering and heat technology.
	Section 3. Energy-saving in electric power engineering.		Section 4. Control methods and means in efficient technical systems.
	Section 5. Efficient biotechnical systems.		
11:00 – 13:00		Round table	
9:00 – 11:00	Energy-saving and efficiency problems in technical systems		CHERNYSHOVA Tatiana Ivanovna – Doc. of Tech. Sc., Prof. , Tambov State Technical University, Tambov
	MUROMTSEV Dmitriy Yuryevich – Doc. of Tech. Sc., Prof., Vice-rector for scientific and innovation activities, Tambov State Technical University, Tambov		
11:00 – 13:00	Conference summing-up		Determination of problems and perspectives of scientific research in the conference topics. Selection of the best section and poster presentations. Rewarding of participants.
13:00 – 14:00		Lunch	
14:00 – 15:00	Visits to research laboratories, spinoff companies and centers of shared access of Tambov State Technical University		
15:00 – 16:00	Free time		
17:00		Dinner	
18:00		Departure of conference participants	

GENERAL INFORMATION

The conference is organized at Tambov State Technical University with the support of the Russian Foundation for Basic Research, project № 17-08-20296 in July 10 – 12, 2017. Venue: APTECH HALL TSTU, 1, Leningradskaya str., Tambov, Russia.

How to reach venue

From the bus station “Noviy” (platform № 1) take bus № 45 till the bus stop “Musical institute”, from the Railway station - buses № 45, 51, fixed-route taxi № 33 till the bus stop “Musical institute” or you may walk (just about 15 minutes) along Internatsionalnaya street from the railway station fountain. See the route: <http://maps.yandex.ru>.

Accommodation for participants is booked at Hotel «Galeria». The main building of Tambov State Technical University is not far from the hotel. Arrival and accommodation of participants is planned for July 8–9, 2017. The conference information is here: <http://apeets.tstu.ru>.

Working languages of the conference are Russian, English and German. Personal and correspondence participation is possible. The contributor can make an oral and poster presentation with the paper publication in the Conference proceedings or one of these variants. Authors who selected the “correspondence participation” submit paper for the publication in the Conference proceedings. All papers will be reviewed. The best Conference papers will be published in the journal “TSTU Transactions” which is included in the list of peer-reviewed scientific journals VAK and international reference database Chemical Abstracts.