

# Don State Technical University



Alena Zheleva

# DSTU: fact and figures



- 1932-1992 - Rostov Institute of Agricultural Machine-Building, the leading educational and research technical institution of the USSR with 4 faculties and 25 specialties

- dates back to 1930 when it was established as North-Caucasus Institute of Agricultural Machine-Building



- 1992 – a university status and the name of Don State Technical University
- 2013 – one of the biggest innovative educational and research center of lifelong learning with more than 45000 students and affiliations throughout South of Russia

# The faculties of DSTU

## Engineering

- Mechanical Engineering Technologies and Machinery
- Oil and Gas Industry
- Agro Engineering
- Mechanical Engineering
- Aircraft Construction, Vehicle Service and Operation
- Agricultural Machinery and Equipment
- Transportation, Service and Operation
- Life Safety and Environmental Engineering
- Energy and Communication system

## Computer Sciences

- Automation, Mechatronics and Control
- Informatics and Computer Sciences

## Economy

- Innovative Business and Management
- Management and Entrepreneurship

## Humanities

- Humanities and Social Sciences
- International
- Mediacommunication
- Physical Culture, Sport and Tourism

# DSTU: fact and figures

<b>PhD (3 years)</b>	Engineering	Computer sciences	Economy	Humanities		<b>42 areas of research 97 patents 45 research labs and centers</b>
<b>Master (2 years)</b>	Engineering (in a field)	Computer sciences	Economy (in a field)	Humanities (in a field)	Sport, Tourism and Service	<b>21 fields of study</b>
<b>Bachelor (4 years)</b>	Engineering (in a profile)	Computer sciences	Economy (in a profile)	Humanities (in a profile)	Sport, Tourism and Service	<b>19 faculties 8 affiliated HEIs 60 fields of study</b>
<b>Secondary education</b>	Technical lyceum, 4 Technical colleges (2 years)		College of Law and Economy	Gymnasium	Secondary school Cadet school	<b>9 educational institutions</b>

# Faculty/departments involved

## *Mechanical Engineering Technologies and Machinery*

- Construction Materials Engineering Department

- Chemistry Department

- Transport Engineering Department

- Forming Technologies and Art Material Processing Department

- Machines and Automation of Welding Production Department

- Physical and Applied Material Engineering Department

Bachelor Degree			
<b>1st</b>	Foreign Language, History, Mathematics, Physics, Informatics, Chemistry, Psychology, Ecology, Information Technology, Philosophy	Practical training	<b>240 ESTS*</b>
<b>2nd</b>	Foreign Language (Business Communication), Philosophy, Descriptive Geometry, Physical Chemistry, Metrology, Standardization, Certification, Crystallography and Crystal Structure Defects, Materials Structure Theory, Methods of Structural Analysis, Stereological Analysis, Electric Engineering, Composites Mechanics	Internship	
<b>3rd</b>	Design and Mechanics of Composites, Economics, Non-equilibrium Thermodynamics, Material Properties, Thermo chemical Treatment, Theory of Diffusion Processes Business Administration, Materials Technology, Failure Mechanics, Non-destructive Inspection Technique, Heat Treatment of Metal, Patenting	Internship	
<b>4th</b>	Material Properties Optimization, General Materials Sciences, Corrosion-resistant Covering, Concentrated Floorage Hard-facing, Chemistry of Nanomaterials, Material of Appliance and Medical Equipment, Environmental Engineering, Nanodiagnostics	Internship	

Master Degree			
5th	Computer and Information Technologies in Science and Industry, Mathematical Modeling and Modern Materials and Processes Science Problems, Methods of Choice and Materials Design, Materials with Special Properties, Processes of Materials Technology, Modern Methods of Structural Study and Analysis, Foreign Language (Business Communication), Materials Science and Non-conventional Material Technology, Nanotechnology in Mechanical Engineering, Structure and Properties Materials Modeling, Metal Corrosion Protection, Laser Surface Hardening Theory and Technology and Surface Modification, Science and Technology Philosophy, Heat Treatment in Magnetic Field, Composite Materials	Industrial R&D Internship	120 ESTS*
6th	Pedagogic and Teaching Principals, Plasma Surface Hardening Theory and Technology, Stereological Analysis of the Research, Materials Science Expertise, Specimen Preparation Technique, Education Legislative Environment.	Industrial R&D Internship Teaching practicum	

\*1 ESTS = 36 “academic hours”

# DSTU: fact and figures

## Interdisciplinary resource center

- Research works for graduates and post-graduates
- cooperation

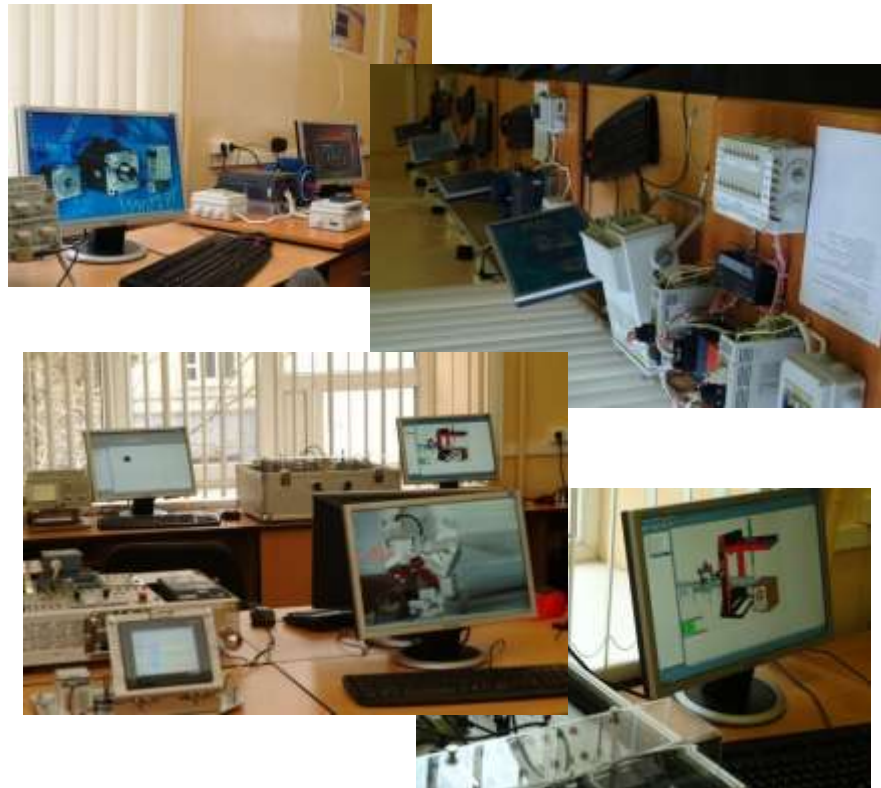




# DSTU: fact and figures

## Research laboratories

- Laboratory of electron and probe microscopy



- Microscopic metallography laboratory

# DSTU: fact and figures

## In-company training



PHYWE  
«NANO-CAB»  
(Gettingem,  
Germany)



Info-centre for  
Atomic energy



Rostov helicopter  
plant



# DSTU: International projects

## Tuning Russia

**Project code** - 511135-TEMPUS-1-2010-1-ES-TEMPUS-JPCR

**Coordinator** - University of Deusto, Spain

- aims to meet the needs of educational institutions and structures and to offer a concrete approach to implement the Bologna Process at the level of higher education institutions and subject areas
- proposes a methodology to (re-) design, develop, implement and evaluate study programmes for each of the higher education cycles in terms of competences and learning outcomes
- **Subject areas include Environmental Engineering, Information and Communication Technologies, Ecology**



# DSTU: International projects

## **1. E3M - Evaluation of Quality of Cooperation in Education Ecosystem as a Mechanism for Building Professional Competencies**

**Project code** - 544028-TEMPUS-1-2013-1-FI-TEMPUS-JPHES

**Coordinator** - University of Applied Sciences JAMK, Finland

## **2. IQA - Independent Quality Assurance model for degree programmes in Russia**

**Project code** - 530838-TEMPUS-1-2012-1-RU-TEMPUS-SMGR

**Coordinator** - Moscow State University of Geodesy and Cartography (MIIGAiK), RF

## **3. EQUASP - On-line Quality Assurance of Study Programmes**

**Project code** - 543727-TEMPUS-1-2013-1-IT-TEMPUS-SMGR

**Coordinator** - University of Genoa, Italy

## **4. VALERU - Validation of non-formal/informal learning in Russian Higher Education**

**Project code** - 544405-TEMPUS-1-2013-1-AT-TEMPUS-SMGR

**Coordinator** - Danube University Krems, Austria

# DSTU: International cooperation

## Assessment of Higher Education Learning Outcomes – OECD's AHELO

- aims to be direct evaluation of student performance at the global level and valid across diverse cultures, languages and different types of institutions
- is based on collaboration between ministries, disciplines and technical experts, faculty and learners, institutional leaders, and a wide range of global stakeholders
- Don State Technical University – in charge of the Engineering discipline specific skills assessment

**NB** - in the case of engineering the focus was made on the capacity of students to extrapolate from what they have learned and apply their competencies in new contexts, rather than replicate curriculum content knowledge



# DSTU: International cooperation

## Bologna Club RF 20 May 2010



- open association of Russian Universities in charge of promoting Bologna Declaration principles and reforming Russian system of education
- targeted to :
  - ✓ Bologna process tools implementation and best-practices sharing;
  - ✓ enhancing network cooperation and development of joint educational programmes;
  - ✓ internationalization of higher education;
  - ✓ institutional partnership promotion, etc.

<http://bc.donstu.ru>



# DSTU: International cooperation

## Sport/Social Academy for children and youth

### «DSTU - RealMadrid»

- Sport as a tool for effective socialization and young people personal development support.
- Social projects in 43 countries: Russian Federation is the 44-th country, Rostov region is the 61-st region.
- Programs for children and youth: football and basketball sports schools.
- Sports competitions and events.
- Youth Summer Camps:
  - football and basketball trainings,
  - innovative educational program:
    - ✓ leadership
    - ✓ teamwork
    - ✓ tolerance
    - ✓ responsibility.



# DSTU: Cooperation with international associations



- Tuning World Academy
- CDIO, International Association for Engineering Education
- OECD, Organisation for Economic Cooperation and Development
- AHELO, The Assessment of Higher Education Learning Outcomes
- WorldSkills, Association for the Development of Vocational Education and Cooperation
- IMPI-Flemish community, European Agency for the Internationalization of Higher Education
- ASIIN, Agency for Accreditation of Degree Programmes in Engineering, Informatics, Mathematics and Natural Sciences



# Stakeholders interested in the project outcomes/activities:



- Rostov combine-harvester plant



- Rostov helicopter plant



- Metal working enterprise




- CNC for aviation



- Bank Societe Generale Vostok



- Phywe Systeme GmbH&Co



- Energy company



- Media company



- Novocheerkassk locomotive plant



- Taganrog vehicle manufacturer



- Azov optical-mechanical plant




- Composition materials and biotechnologies

# Local project team

- **Svetlana Shvedova**

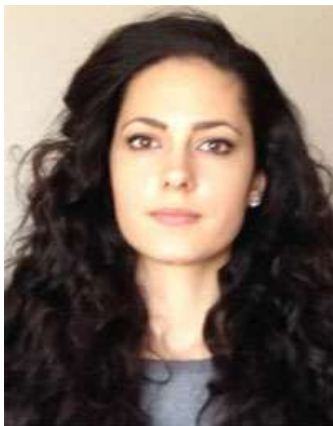


Vice-Rector on International Affairs, PhD,  
associate professor.

- **Elena Chernysheva**



Chief of the International Project  
Management Department, PhD



- **Alena Zheleva**

Academic Mobility Expert, senior lecturer on  
Physical and Applied Material Science  
Department

# Contacts

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