

6TH INTERNATIONAL CONFERENCE TIO 2016

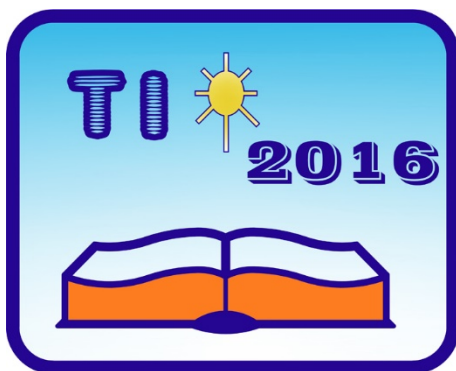
❖ Organizer:

Faculty of Technical Sciences Čačak
University of Kragujevac, Serbia

❖ Co-Organizers:

University of Kragujevac - Tempus project NeReLa
Technical Faculty 'Mihajlo Pupin', Zrenjanin
Teachers Training Faculty, Užice
Pedagogical Faculty, Vranje
Faculty of Mechanical and Civil Engineering, Kraljevo
Association of Technical Education Teachers, RS
Association of Technical Educators, RS
The Association Teachers of Informatics of Serbia

PROGRAMME



Technics and Informatics in Education

- Challenges in technical and IT education - from preschool to university
- Information and Educational Technologies
- Professional development of IT and technical education teachers
- Engineering Education
- Remote experiments – NeReLa
- Day of computing

ČAČAK, 28th–29th, May 2016

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Chairmen: Prof. Živadin Micić, Prof. Željko Papić,
Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia

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25. Prof. Zvonimir Jugović, Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia
26. Prof. Radomir Slavković, Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia
27. Prof. Siniša Randić, Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia
28. Prof. Miloš Radovanović, Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia
29. Prof. Snežana Dragičević, Vice-dean of Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia
30. Prof. Danijela Milošević, Vice-dean of Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia

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Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia

Secretary General: Milica Stojković,
Faculty of Technical Sciences Čačak, University of Kragujevac, Serbia

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SPONSORS

Ministry of Education, Science
and Technological Development
of the Republic of Serbia

University of Kragujevac



THEMATIC FIELDS

Technics and informatics in education:

- Challenges in technical and IT education – from preschool to university
- Information and Educational Technologies
- Professional development of IT and technical education teachers
- Engineering Education
- Remote experiments – NeReLa
- Day of computing

NeReLa at TIO 2016

The activities of the TEMPUS project NeReLa (Building a network of remote laboratories for strengthening the cooperation between universities and vocational secondary schools, will be presented within the 6th international conference TIO2016. The coordinator of the project is Prof. Radojka Krneta, Faculty of Technical Sciences in Čačak. The aim of the project is to improve engineering studies in Serbia by introducing innovative teaching methods concerning remote experiments, as well as strengthening the cooperation between universities and vocational schools through training vocational school teachers in using remote experiments in the classroom.

CONFERENCE VENUE

TIO 2016 Conference will be held in Čačak, Serbia, at the Faculty of Technical Sciences, Svetog Save 65, from 28th to 29th May, 2016.

PAPER PRESENTATION

Official language in the Conference is English. The papers included in the programme will be presented orally. The time for the paper presentation is limited to ten minutes. Presentations of the papers can be prepared on PC computer in Power Point software.

The papers in the Conference will be printed in the Conference proceedings on CD, and they will be available at Website: <http://www.ftn.kg.ac.rs/tio2016/>

CONTACT ADDRESSES

Website: <http://www.ftn.kg.ac.rs/tio2016/>

E-mail: tio@ftn.kg.ac.rs

Secretary General:

Milica Stojković, Tel: +381 32 302 713; +381 60 0688 373

Chief of Staff of the Dean's office:

Milka Jovanović, MSc, Tel: +381 32 302 757, +381 64 676 7099

EXHIBITION

Instructional aids, Publications

Posters:

- Technical solutions realized at the Faculty
- The projects financed by the Ministry of Education, Science and Technological Development of the Republic of Serbia
- Innovative projects

An exhibition of sponsor products will be held within the Conference and a display of their product range will be presented in brochures or other promotional material. The exhibition will be held at Faculty of Technical Sciences Čačak.

ACCOMMODATION

Participants can make accommodation reservations directly by calling the following phone numbers:

Hotel "Beograd"	+381 32 224 593
Hostel "Centrum"	+381 69 310 0460
	+381 32 310 460
Garni Hotel "Tema Nova"	+381 62 171 3216
	+381 32 310 210

Saturday, 28th May 2016

9 ⁰⁰ – 10 ⁰⁰	Participant registration
10 ⁰⁰ – 10 ³⁰	Conference Opening
10 ³⁰ – 12 ⁰⁰	Plenary Session
12 ⁰⁰ – 13 ⁰⁰	Cocktail
13 ⁰⁰ – 14 ⁰⁰	NeReLa – Demo section Day of Computing
14 ⁰⁰ – 18 ⁰⁰	Papers Presentation in Sections
18 ⁰⁰ – 19 ⁰⁰	Round Table – Current issues at Technics and Informatics Education in Serbia

Sunday, 29th May 2016

10 ⁰⁰ – 12 ³⁰	Poster presentation – Research in the field of technical sciences and teaching– The contribution of research projects supported by the Ministry of Education, Science and Technological Development in development of teaching techniques in Serbian schools – presentation of the main results.
12 ³⁰ – 13 ⁰⁰	Pause (Coffee Break)
13 ⁰⁰ – 14 ⁰⁰	Chairmen reports Selecting the best conference paper Closing remarks

PROGRAMME

Venue **Faculty of Technical Sciences Čačak**

Saturday **28th May 2016**

9 ⁰⁰ – 10 ⁰⁰	Participant registration	Faculty hall
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10 ⁰⁰ – 10 ³⁰	Conference Opening	Amphitheatre
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Chairman:	Chairmanship
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10 ³⁰ – 12 ⁰⁰	Plenary Session	Amphitheatre
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Chairmen:	Chairmanship
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P1 Dragan Golubović, Siniša Randić, Dragoš Golubović
Proposal with regarding to teaching programme on Technics and informatics in elementary schools and high schools in Serbia

P2 Siniša Randić
Where the Computing Ends, and Begins ...?

12 ⁰⁰ – 13 ⁰⁰	Cocktail	Faculty hall
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13 ⁰⁰ – 14 ⁰⁰	NeReLa – Demo Section	Hall 216
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Chairmen:	Prof. Radojka Krneta Prof. Miroslav Bjekić
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13 ⁰⁰ – 14 ⁰⁰	Day of computing	Blue Hall
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Chairmen:	Prof. Siniša Randić
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14 ⁰⁰ – 18 ⁰⁰	SECTION I: Challenges in technical and IT education	Hall 14
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15 ³⁰ – 16 ⁰⁰ Pause		
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Chairmen:	Prof. Dragan Golubović Prof. Željko M. Papić
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- 1.1. **Natalija Diković**
Importance of TIE subject in education
- 1.2. **Zoran D. Lapčević**
Technical and IT education challenges, fears and hopes
- 1.3. **Veljko Aleksić, Željko M. Papić**
The global perspective of technics in education
- 1.4. **Milan Sanader, Gordana Sanader**
Control Input/Output interface with the program for control of robotic production line segment models
- 1.5. **Aleksandar Đurčilov**
Technical resources in the construction industry, educational software
- 1.6. **Milentije Luković, Sanja Antić, Vanja Luković**
Simple electrical circuit to light up a gas discharge lamp

- 1.7. **Siniša Minić, Dragan Kreculj, Goran Manojlović**
Modeling, simulation and control of electronic circuits in the application electronics lab
- 1.8. **Željko Petrić**
Preventive work of driving schools and the local community on eliminating the causes of young people suffering in traffic
- 1.9. **Senad Sinanović**
The development of motorcycles in terms of passive safety in traffic
- 1.10. **Dragana Stanojević, Branislav Randelović**
Educational standards for the subject Digital literacy in the functional primary adult education
- 1.11. **Andrijana Pešić, Živadin Micić**
Education as prevention of cyberbullying
- 1.12. **Biljana Vučković**
Google classrooms and its application in teaching
- 1.13. **Snežana. D. Mijailović**
The use of computers and the Internet for learning elementary school pupils
- 1.14. **Dragan Grujić**
Application of modern educational technology in teaching technical and IT education
- 1.15. **Nikola Dragović, Svetlana Anđelić, Bojan Ristić, Mirjana Žilović**
The use of tablet devices and Google Drive service in teaching in the case of information technology high school - ITHS
- 1.16. **Biljana Mihailović, Katarina Čutović, Sladana Dromnjaković**
Use of digital movies in teaching
- 1.17. **Nebojša Mrda**
Textbooks in three dimensions (linking in electronic textbooks)

14 ⁰⁰ – 18 ⁰⁰	SECTION II: Information and Educational Technologies	Hall 15
15 ³⁰ – 16 ⁰⁰ Pause		
Chairmen:	Prof. Živadin Micić Dr Marija Blagojević Katarina Mitrović	
Assistant:		

- 2.1. **Milevica Bojović, Snežana Tanasković**
Open education resources in enhancing education of biotechnology engineers
- 2.2. **Sanja Bauk, Tatijana Dlačač**
A contribution towards using multimedia and Moodle at the Faculty of maritime studies in Kotor (Montenegro)
- 2.3. **Milena Marić, Daniela Aleksić Minić**
Progress of web tools from Web 2.0 to 4.0 and their implementation into the educational process
- 2.4. **Jezdimir - Luka Obadović**
A new approach to learning with the introduction of modern information tools and software in the teaching process
- 2.5. **Sanja Janković, Marija Jordanović**
Computer games in the function of developing initial mathematical concepts
- 2.6. **Momčilo Randelović, Alempije Veljović, Ljiljana Stanojević, Lidija Paunović**
The effects of digital dialogue in teaching programming
- 2.7. **Predrag Novaković, Snežana Tošović**
Bitstrips in school
- 2.8. **Snežana Mijailović, Draško Simonović, Danka Đokić**
Examples of using One Drive in establishing more interactive cooperation among students, teachers and parents
- 2.9. **Olivera Iskrenović-Momčilović**
Using PowerPoint presentation in teaching

- 2.10. **Ivan Jovanović, Veljko Aleksić**
The mobile learning classroom potential
- 2.11. **Miloš Papić, Nebojša Stanković, Boris Jevtić, Nenad Pantelić**
Informal learning via internet forum
- 2.12. **Vanco Cabukovski, Riste Temjanovski, Roman Golubovski**
The university library information system adaptability in an intelligent based university environment
- 2.13. **Vladimir Radovanović, Bojana Marinčić, Dragoslava Rodaljević**
Library information system and graduates
- 2.14. **Predrag Stolić, Snežana Stolić, Aleksandra Milosavljević**
Text analytics applications in higher education institutions
- 2.15. **Nenad Marković, Jelena Rajović**
Influence of English language on Serbian language in the context of computer terminology
- 2.16. **Vladimir Mladenović, Miroslav Lutovac, Sergey Makov**
Introduction of computer algebra systems in electrical engineering education using Wolfram language on Raspberry pi
- 2.17. **Branko Marković, Vladimir Milićević, Dragana Petrović, Dejan Nešković, Gordana Marković**
Serbian language speech database “Phonemes_1.0”: design and application
- 2.18. **Katarina Mitrović, Danijela Milošević, Nenad Stefanović, Marjan Milošević**
Grails application in entrepreneurship
- 2.19. **Olga Ristić, Danijela Milošević, Vlade Urošević**
The importance of programming languages in education
- 2.20. **Živadin Micić, Vesna Ružičić**
Innovation sources of knowledge for clustering standardized field of creativity

14 ⁰⁰ – 18 ⁰⁰	SECTION III: Professional development of IT and TE teachers	Hall 16
15 ³⁰ – 16 ⁰⁰ Pause		
Chairman:	Prof. Dragan Bjekić	
Assistant:	Biljana Kuzmanović, M.Sc.	

- 3.1. **Jovana Jezdimirović, Miloš Vučić, José Miró Julià, Daniel Ruiz Aguilera**
Comparisons of educational processes and students assessments in Spain and Serbia
- 3.2. **Svetlana Obradović, Maria Papadopoulou, Georgia Mougou, Dimitra Mougou**
ICT support to people with developmental disorders (specific learning disabilities)
- 3.3. **Vladimir Kraguljac, Mladen Janjić, Vera Lazarević**
Analysis of the results of the entrance exam and the first colloquium of Business informatics
- 3.4. **Snezana Stavreva Veselinovska, Snezana Kirova**
The pedagogical benefits and pitfalls of applying tools for teaching and learning laboratory practices in the biological sciences
- 3.5. **Snezana Stavreva Veselinovska, Snezana Kirova**
Application of ICT in teaching biology (Example of a lesson)
- 3.6. **Vojislav Ilić, Andrijana Šikl-Erski**
Students e-portfolio in art classes
- 3.7. **Bojana Anđelković**
Teacher competence as a predictor of acceptance and use of modern media and technology in the classroom

- 3.8. Snežana Đorđević, Sanja Puzović, Vladan Paunović**
Applying e-portfolio for improving the monitoring process and evaluation of teachers' work in elementary schools
- 3.9. Mira Jovanović**
Opportunities and challenges of professional development school pedagogue in contemporary conditions
- 3.10. Ajsela Hadžiahmetović, Rifat Redžović**
Teaching and learning through the use of screencasting tools in teaching informatics and computing
- 3.11. Vesna Kovačević**
Bridging the gap between the classroom and reality (ESP) – Task based/Topic centred learning
- 3.12. Biljana Kuzmanović, Marija Blagojević, Momčilo Vujičić**
Learning styles of students of different professions
- 3.13. Dragana Bjekić, Milica Stojković, Biljana Kuzmanović**
School-based mentoring of students–teachers in the practice and beginning teachers

14 ⁰⁰ – 18 ⁰⁰ 15 ³⁰ – 16 ⁰⁰ Pause	SECTION IV: Engineering Education	Hall 17
Chairmen:	Prof. Radomir Slavković Dr Ivan Milićević	
Assistant:	Milan Marjanović, M.Sc.	

- 4.1. Milica Stojković, Elisabetta Ghirardelli**
Comparative analysis of engineering study programs at two universities in Italy and Serbia
- 4.2. Senka Šekularac-Ivošević**
Seafarers' education and training in the context of improvement leadership and managerial knowledge and skills
- 4.3. Milena Stanisavljević**
Financial literacy of the students of technical sciences
- 4.4. Nela Cvetković, Milovan Medojević, Slobodan Morača**
Supporting education of engineers of 2020 through triple helix model
- 4.5. Milovan Medojević, Nemanja Sremčev, Slobodan Morača, Milana Medojević, Nela Cvetković**
Remote laboratory concepts: A conceptual model of remote laboratory for solar energy engineering
- 4.6. Vule Reljić, Brajan Bajči, Jovan Šulc, Dragan Šešlija, Slobodan Dučić**
Remote control of pneumatic circular manipulator using CompactRIO controller
- 4.7. Vule Reljić, Predrag Vidicki, Brajan Bajči, Dragan Šešlija, Jovan Šulc**
Using of remote controlled pneumatic spring in teaching
- 4.8. Marko Stanković**
Computable functions and lambda calculus
- 4.9. Biljana Zlatanovska, Aleksandra Stojanova, Mirjana Kocaleva, Natasha Stojković, Aleksandar Krstev**
Mathematica as program support in the integral calculations
- 4.10. Milan Marjanović, Ivan Milićević, Snežana Dragičević, Marko Popović, Stojan Savković**
The application of Microsoft Excel in teaching courses of mechanical engineering
- 4.11. Miloš Božić, Vojislav Vujičić, Goran Đorđević**
Realization of sensory mobile platform “WEGY” and possibilities of use in education
- 4.12. Slobodan Aleksandrov, Milomir Mijatović, Radica Aleksandrov**
Up-to-date approach to design of mechatronic systems

- 4.13. Marko Rosić, Milan Bebić, Nikola Đorđević, Miroslav Bjekić, Marko Šučurović**
Simulation model of direct torque control with discretized voltage vector intensities
- 4.14. Jovan Ivković, Alempije Veljović, Branislav Randelović, Vladimir Veljović**
ODROID-XU4 as a desktop PC and microcontroller development boards alternative
- 4.15. Đorđe Damjanović, Dejan Vujičić, Marina Milošević, Dijana Jagodić**
Some aspects of using the XBOX Kinect technology in the human-computer interaction class
- 4.16. Marko Šučurović, Miloš Božić, Snežana Dragičević**
Educational set up for measurement of photovoltaic modul electrical parameters
- 4.17. Goran Jovanov**
Automated noise measurement technique of petrol engine
- 4.18. Stojan Savković, Vojislav Vujičić, Ivan Milićević, Milan Marjanović, Radomir Slavković, Nedeljko Dučić**
Determination of velocity and acceleration of the object in motion moving down along vertical cylindrical rails
- 4.19. Miroslav Bjekić, Dragana Bjekić**
Energy efficiency of electrical drives: between energy engineering, energy policy and energy education

18 ⁰⁰ – 19 ⁰⁰	ROUND TABLE: Current issues at Technics and Informatics Education in Serbia	Hall 232
Chairmen:	Prof. Željko M. Papić Prof. Dragan Golubović	

Sunday

29th May 2016

10 ⁰⁰ – 12 ³⁰	Poster presentation – Research in the field of technical sciences and teaching – The contribution of research projects supported by the Ministry of Education, Science and Technological Development in development of teaching techniques in Serbian schools – presentation of the main results.	Hall 232
Chairman:	Chairmanship	

12 ³⁰ – 13 ⁰⁰	Coffee break	Hall 232
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13 ⁰⁰ – 14 ⁰⁰	Chairmen reports Selecting the best conference paper Closing remarks	Hall 232
Chairman:	Chairmanship	