

**32<sup>nd</sup> International Conference on  
Information Technologies – InfoTech-2018  
(combined forum with preliminary virtual discussion)**

20-21 September 2018  
St. St. Constantine and Elena resort  
Bulgaria

***PRELIMINARY  
PROGRAM***

*The forum is organized in the frame of  
“Days of the Science of Technical University-Sofia, 2018”*

## InfoTech-2018 Organizers



### ***Technical University of Sofia***

Web site: <http://www.tu-sofia.bg/>



### ***Union of Electronics, Electrical Engineering and Communications***

Web site: <http://ceec.fnts-bg.org>



### ***Union of Scientists in Bulgaria***

Web site: <http://www.usb-bg.org>

**Conference InfoTech-2018 is an event of:**

- ◆ ***Faculty of Applied Mathematics and Informatics of TU-Sofia  
(Department of Informatics)***
- ◆ ***College of Energy and Electronics at TU-Sofia  
(Department of Electronics, Computer Systems and Technologies)***

**InfoTech-2018 is organized with the financial support of:**

**Technical University of Sofia (Scientific and Research Sector)**  
(<http://www.tu-sofia.bg>)

**Association Bulgarian Research and Education Network**  
(<http://www.bren.bg>)

**Union of Electronics, Electrical Engineering and Communications**  
(<http://ceec.fnts-bg.org>)

**Institute of Electrical and Electronics Engineers, Section Bulgaria** (<http://www.ieee.bg>)

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Web site: <http://infotech-bg.com>

## Conference Program Overview

### Thursday, 20<sup>th</sup> September 2018

- 11:00 – 12:30 On-Site Registration and Conference Materials (*Conf. Office*)
- 14:00 – 14:15 **Official Opening**  
Conference Opening  
Welcome Speech
- 14:15 – 15:00 **Plenary Session 1**  
Plenary Report **[A01]** in Section [A]:  
*“Networking, Cyber Security & Intelligent Systems”*
- 15:00 – 15:45 **Coffee Break & Discussion** in the IHS Foyer
- 15:45 – 17:30 **Report Session 1:** Section [A]:  
*“Networking, Cyber Security & Intelligent Systems”*
- 19:30 – 22:30 **Official Conference Dinner**

### Friday, 21<sup>st</sup> September 2018

- 09:30 – 10:40 **Plenary Session 2**  
Plenary Reports **[B01]** & **[B02]** in Section [B]:  
*“Information Technologies, System Design and Privacy”*
- 10:40 – 11:10 **Coffee Break & Discussion** in the IHS Foyer
- 11:10 – 12:50 **Report Session 2:** Section [B]:  
*“Information Technologies, System Design and Privacy”*
- 12:50 – 12:55 **Conference Closing**

## Conference Venue

International Home of Scientists (IHS) “Fr. J. Curie”  
St. St. Constantin and Elena resort  
(near the city of Varna, Bulgaria)



# InfoTech-2018, 20-21 September 2018

## Preliminary Scientific Program

**Thursday, 20<sup>th</sup> September 2018**

**14:00 – 14:15 (Conference Hall)**

**Official Opening**

**Conference Opening**

*Prof. Radi Romansky, D.Sc.*, Chairperson of the Organizing Committee (Bulgaria)

**Welcome Speech**

*Prof. Ivan Kralov, PhD*, Vice rector of Technical University of Sofia (Bulgaria)

**Welcome Speech**

*Dr. Stefan Pachedzhiev*, Director of Union of Electronics, Electrical Engineering and Communications (Bulgaria)

**14:15 – 15:00 (Conference Hall)**

**Plenary Session 1**

**Plenary Report in [A] “Networking, Cyber Security and Intelligent Systems”**

**[A01] Big Data and Internet of Things for Critical Domains: Challenges and Solutions**

*Prof. Vycheslav Kharchenko, D.Sc.*

National Aerospace University “KhAI”, Department of Computer Systems, Networks and Cybersecurity; Centre for Safety Infrastructure Oriented Research and Analysis of Research and Production Company Radiy (Ukraine)

**15:00 – 15:45 (Foyer)**

**Coffee Break & Discussion**

**15:45 – 17:30 (Conference Hall)**

**Report Session 1**

*Chairpersons: Prof. Vycheslav Kharchenko, D.Sc. (Ukraine)*

*Assoc. prof. Dimitar Tsanev, PhD (Bulgaria)*

**Section [A] “Networking, Cyber Security and Intelligent Systems”**

**Brief oral presentation (about 10 minutes) of a report presented in the e-forum**

***Networking and Cyber Security***

**[A02] Information Technology for Green Software Engineering for the Internet of Things**

*Elena Stetsuyk, Dmitry Maevsky, Elena Maevskaya*

Odessa National Polytechnic University (Ukraine)

**[A03] Economic Considerations in the Use of Cloud Computing in the Technical Wholesale**

*Andreas Pescholl*

Haustechnik Handels-GmbH, Treuen (Germany)

**[A04] Explore Modern Responsive Web Design Techniques**

*Elena Parvanova*

Technical University of Sofia, College of Energy and Electronics (Bulgaria)

**[A05] New Approaches in the Examination of the Cyber Threats**

*Roumen Trifonov<sup>1</sup>, Slavcho Manolov<sup>2</sup>, Radoslav Yoshinov<sup>3</sup>, Georgi Tsochev<sup>1</sup>, Georgi Popov<sup>1</sup>, Galya Pavlova<sup>1</sup>*

<sup>1</sup>Technical University of Sofia, <sup>2</sup>Association EDIBUL, <sup>3</sup>Bulgarian Academy of Sciences (Bulgaria)

**Intelligent Systems**

**[A06] Operational Cyber-Threat Intelligence Supported by Artificial Intelligence Methods**

*Roumen Trifonov<sup>1</sup>, Slavcho Manolov<sup>2</sup>, Radoslav Yoshinov<sup>3</sup>, Georgi Tsochev<sup>1</sup>, Sergey Nedev<sup>1</sup>, Galya Pavlova<sup>1</sup>*

<sup>1</sup>Technical University of Sofia, <sup>2</sup>Association EDIBUL, <sup>3</sup>Bulgarian Academy of Sciences (Bulgaria)

**[A07] Modelling and Implementation of Machine Learning Technologies for Hate Speech Detection in Mobile Applications**

*Bujar Raufi<sup>1</sup>, Ildi Xhaferri<sup>2</sup>*

South East European University, Tetovo (<sup>1</sup>Macedonia, <sup>2</sup>Albania)

**[A08] Artificial Intelligence in Internet of Medical Imaging Things: The Power of Thyroid Cancer Detection**

*Desislava Ivanova*

Department of Informatics, Technical University of Sofia (Bulgaria)

**[A09] Dual MLP Pairs with Hidden Layer Sharing**

*Ivan Blagoev, Janeta Sevova, Kolyu Kolev*

Bulgarian Academy of Sciences, Sofia (Bulgaria)

**[A10] Application of Deep Learning Approach in Sequential Games**

*Vanya Markova, Ventseslav Shopov*

Institute of Robotics, Bulgarian Academy of Science, Plovdiv (Bulgaria)

**[A11] Solving the Global Trajectory Optimization Problem with Archive-Based Differential Evolution**

*Vladimir Stanovov, Shakhnaz Akhmedova, Eugene Semenkin*

Reshetnev Siberian State University of Science and Technology, Krasnoyarsk (Russian Federation)

**Friday, 21<sup>st</sup> September 2018**

<b>09:30 – 10:40 (Conference Hall)</b>	<b>Plenary Session 2</b>
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**Plenary Reports in [B] “Information Technologies, System Design and Privacy”**

09:30-10:05

**[B01] Education and Practical Knowledge for Project and Risk Management in ICT Area**

*Prof. Vangel Fustik, Dr.*

Faculty for Electrical Engineering and IT, University St. St. Cyril and Methodius, Skopje (R. of Macedonia)

10:05-10:40

**[B02] The Use of Scripts and Storyboards in Crisis Situations**

*Prof. Dr. Leon Rothkrantz, Dr. h. c.*

Delft University of Technology (The Netherlands)

<b>10:40 – 11:10 (Foyer)</b>	<b>Coffee Break &amp; Discussion</b>
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<b>11:10 – 12:50 (Conference Hall)</b>	<b>Report Session 2</b>
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*Chairpersons: Prof. Dr. Vangel Fustik (R. of Macedonia)  
Assoc. Prof. Dr. Dessislava Ivanova (Bulgaria)*

**Section [B] “Information Technologies, System Design and Privacy”**

**Brief oral presentation (about 10 minutes) of a report presented in the e-forum**

**Software Technologies & Database Management**

**[B03] Service-Oriented Architecture and Process Modelling**

*Mohsen Mohammadi<sup>1</sup>, Muriati Mukhtar<sup>2</sup>*

<sup>1</sup> Esfarayen University of Technology, Esafarayan

<sup>2</sup> Information Science and Technology, University Kebangsaan Malaysia

(<sup>1</sup>Iran, <sup>2</sup>Malaysia)

**[B04] Analysis and Comparison of Document-Based Databases with SQL Relational Databases: MongoDB vs. MySQL**

*Raif Deari, Xhemal Zenuni, Jaumin Ajdari, Florije Ismaili, Bujar Raufi*

South East European University, Tetovo (R. of Macedonia)

**Computer Modelling & Optimization**

**[B05] Simulated Comparison of Push/Pull Production with Committed and Non-Committed Automated Guided Vehicles**

*Georgios Christoforidis<sup>1</sup>, Vangelis A. Stykas<sup>2</sup>, Thomas Kassos<sup>2</sup>*

(<sup>1</sup>Scotland, <sup>2</sup>Greece)

**[B06] Phase-Plane Models in Korelia Software**

*Kaloyan Yankov*

Faculty of Technics and Technologies, Trakia University (Bulgaria)

**[B07] UI Design Optimization and Analysis on Coupon Platforms for Improving Service Quality**

Stefan Zafirovski, Nevenka Kiteva Rogleva, Vangel Fustic  
Faculty for Electrical Engineering and IT, University St. St. Cyril and Methodius,  
Skopje (R. of Macedonia)

**Testing and System Reliability****[B08] Investigating Binaural Localisation Abilities for Proposing a Standardised Testing Environment for Binaural Systems**

Sebastian Chandler Crnigoj, Karl O. Jones, David Ellis, Paul Otterson,  
Stephen Wylie  
Liverpool John Moores University (United Kingdom)

**Power Systems – Automation and Control****[B9] Inrush Current Interference Between Power Transformers**

*Mihail Digalovski, Goran Rafajlovski*  
Faculty for Electrical Engineering and IT, University St. St. Cyril and Methodius,  
Skopje (R. of Macedonia)

**[B10] Controlling Induction Motors**

*Goran Rafajlovski, Michail Digalovski*  
Faculty for Electrical Engineering and IT, University St. St. Cyril and Methodius,  
Skopje (R. of Macedonia)

**e-Learning****[B11] Creating an Electronic Magazine in Wordpress for Promoting the Practical Training of Students**

*Dimitrios Liarokapis, Vasilios Papigiotis, Eleftherios Stergiou, Christos Gogos*  
Technological Education Institute of Epirus, Arta (Greece)

**Privacy****[B12] A Model for Implementation GDPR Based on ISO Standards**

*Tzanko Tzolov*  
Member of the Commission for Personal Data Protection (Bulgaria)

<b>12:50</b>	<b>Conference Closing</b>
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