

Volume 60 of PROCEEDINGS includes the papers presented at the scientific conference RU & SU'21, organized and conducted by University of Ruse "Angel Kanchev" and the Union of Scientists - Ruse. Series 5.1. contains papers reported in the Economics and Management.

Book	Code	Faculty and Section
Agrarian and Industrial Faculty		
1.1.	FRI-ONLINE-1-AMT&ASVM	Agricultural Machinery and Technologies, Agrarian Science and Veterinary Medicine
	FRI-ONLINE-1-MR	Maintenance and Reliability
	FRI-ONLINE-1-THPE	Thermal, Hydro- and Pneumatic Equipment
	FRI-ONLINE-1-EC	Ecology and Conservation
	FRI-ONLINE-1-ID	Industrial Design
1.2.	WED-ONLINE-SSS-AMT&ASVM	Agricultural Machinery and Technologies, Agrarian Science and Veterinary Medicine
	WED-ONLINE-SSS- MR	Maintenance and Reliability
	WED-ONLINE-SSS-THPE	Thermal, Hydro- and Pneumatic Equipment
	WED-ONLINE-SSS-EC	Ecology and Conservation
	WED-ONLINE-SSS-ID	Industrial Design
Faculty of Mechanical and Manufacturing Engineering		
2.1.	FRI-ONLINE-1-MEMBT	Mechanical Engineering and Machine-Building Technologies
2.2.	WED-ONLINE-SSS-MEMBT	Mechanical Engineering and Machine-Building Technologies
Faculty of Electrical Engineering Electronics and Automation		
3.1.	FRI-ONLINE-1-EEEE	Electrical Engineering, Electronics and Automation
3.2.	FRI-ONLINE-1-CCT	Communication and Computer Technologies
3.3.	THU-ONLINE-SSS-EEEE	Electrical Engineering, Electronics and Automation
	THU-ONLINE-SSS-CCT	Communication and Computer Technologies
Faculty of Transport		
4.1.	FRI-2.209-1-TMS	Transport and Machine Science
4.2.	FRI-2.204-SITSTL	Sustainable and Intelligent Transport Systems, Technologies and Logistics
4.3.	WED-ONLINE-SSS-TMS	Transport and Machine Science
Faculty of Business and Management		
5.1.	FRI-ONLINE-1-EM	Economics and Management
5.2.	FRI-ONLINE-1-LIPC	Linguoculturology, Intercultural and Political Communication
5.3.	THU-ONLINE-SSS-EM	Economics and Management
5.4.	FRI-ONLINE-1-ESIS	European Studies and International Security
8.2.	FRI-ONLINE-1-SW	Social Work
Faculty of Natural Sciences and Education		
6.1.	FRI-ONLINE-1-MIP	Mathematics, Informatics and Physics
6.2.	FRI-ONLINE-1-PP	Pedagogy and Psychology
6.3.	FRI-ONLINE-1-LL	Linguistics and Literature
	FRI-ONLINE-1-AS	Art Studies
6.4.	FRI-ONLINE-1-ERI	Education - Research and Innovations

6.5.	THU-ONLINE-SSS-FM	Financial Mathematics
	THU-ONLINE-SSS-PP	Pedagogy and Psychology
Faculty of Law		
7.1.	FRI-ONLINE-1-LS	Law Studies
7.2.	FRI-ONLINE-1-NS	National Security
7.3.	MON-ONLINE-SSS-L	Law Studies
Faculty of Public Health and Health Care		
8.1.	FRI-ONLINE-1-HP	Health Promotion
8.3.	FRI-ONLINE-1-HC	Health Care
8.4.	FRI-ONLINE-1-MCDA	Medical and Clinical Diagnostic Activities
8.5.	THU-ONLINE-SSS-HP	Health Promotion
	FRI-ONLINE-SSS-HC	Health Care
	THU-ONLINE-SSS-MCDA	Medical and Clinical Diagnostic Activities
Quality of Education Directorate		
9.1.	FRI-ONLINE-QHE	Quality of Higher Education
Razgrad Branch of the University of Ruse		
10.1.	FRI-LCR-1-CT(R)	Chemical Technologies
10.2.	FRI-LCR-1-BFT(R)	Biotechnologies and Food Technologies
10.3.	TUE-ONLINE-SSS-BFT(R)	Biotechnologies and Food Technologies
	TUE-ONLINE-SSS-CT(R)	Chemical Technologies
Silistra Branch of the University of Ruse		
11.1.	FRI-ONLINE-DPM(S)	Didactics, Pedagogy and Methodology of training in...
	FRI-ONLINE-LTLHF(S)	Linguistics; Theory of Literature and History; Philosophy
	FRI-ONLINE-ELENSTS(S)	E-Learning; Electrical; Technical Sciences
11.2.	FRI-ONLINE-SSH(S)	Humanities
	FRI-ONLINE-SSS-PPTM(S)	Pedagogy, Psychology, and Teaching Methodology
	FRI-ONLINE-SSS-TS(S)	Technical Sciences

The papers have been reviewed.

ISSN 1311-3321 (print)

ISSN 2535-1028 (CD-ROM)

ISSN 2603-4123 (on-line) Copyright © authors

The issue was included in the international ISSN database, available at <https://portal.issn.org/>.

The online edition is registered in the portal ROAD scientific resources online open access



PROGRAMME COMMITTEE

- **Prof. Amar Ramdane-Cherif**
University of Versailles, France
- **Assoc. Prof. Manolo Dulva HINA**
ECE Paris School of Engineering, France
- **Prof. Leon Rothkrantz**
Delft University of Technology, Netherlands
- **Assoc. Prof. Antonio Jose Mendes**
University of Coimbra, Portugal
- **Prof. Ville Leppanen**
University of Turku, Finland
- **Assoc. Prof. Marco Porta**
University of Pavia, Italy
- **Prof. Douglas Harms**
DePauw University, USA
- **Prof. Zhanat Nurbekova**
L. N. Gumilyov Eurasian National University, Nur Sultan, Kazakhstan
- **Prof. Mirlan Chynybaev**
Kyrgyz State Technical University, Bishkek, Kyrgyzstan
- **Prof. Ismo Hakala, PhD**
University of Jyväskylä, Finland
- **Prof. Artur Jutman, PhD**
Tallinn University of Technology, Estonia
- **Prof. RNDr. Vladimir Tvarozek, PhD**
Slovak University of Technology in Bratislava, Bratislava, Slovakia
- **Assoc. Prof. Ing. Zuzana Palkova, PhD**
Slovak University of Agriculture in Nitra, Nitra, Slovakia
- **Andrzej Tutaj, PhD**
AGH University of Science and Technology, Krakow, Poland
- **Prof. Valentin NEDEFF Dr. eng. Dr.h.c.**
“Vasile Alecsandri” University of Bacău, Romania
- **Cătălin POPA, PhD**
“Mircea cel Bătrân” Naval Academy, Constantza, Romania
- **Prof. dr Larisa Jovanović**
Alfa University, Belgrade, Serbia
- **Prof. dr hab. Edmund LORENCOWICZ**
University of Life Sciences in Lublin, Poland
- **Assoc. Prof. Ion MIERLUS - MAZILU, PhD**
Technical University of Civil Engineering, Bucharest, Romania
- **Prof. Dojčil Vojvodić PhD**
Faculty of Philosophy, University of Novi Sad, Serbi
- **Assoc. Prof. Alexandrache Carmen, PhD**
Department of Teacher Training, “Dunarea de Jos”, Galati University, Romania
- **Prof. Alberto Cabada**
University of Santiago de Compostela, Faculty of Mathematics, Santiago de Compostela, Spain
- **Kamen Rikev, PhD**
Institute of Slavic Philology, Maria Curie-Skłodowska University in Lublin, Poland

- **Anna Klimentova, PhD**
Constantine the Philosopher University of Nitra, Slovakia
- **Prof. Ricardo Gobato, PhD**
Secretariat of State of Parana Education and Sport (SEED/PR), Laboratory of Biophysics and Molecular Modeling Genesis
- **Prof. Fatima Rahim Abdul Hussein, PhD**
University of Misan, College of Basic Education, English Department, Iraq
- **Prof. Emilija Gjorgjeva, PhD**
Goce Delchev University - Shtip, Nord Macedonia
- **Prof. Igor Kevorkovich Danilov, DSc**
Yuri Gagarin State Technical University of Saratov, Russia
- **Prof. Aleksander Valentinov Sladkowski, DSc**
Silesian University of Technology, Poland
- **Prof. Vera Karadjova, PhD**
“St. Kliment Ohridski” University – Bitola, Faculty of tourism and hospitality – Ohrid, Republic of North Macedonia
- **Prof. Aleksandar Trajkov, PhD**
“St. Kliment Ohridski” University - Bitola, Faculty of tourism and hospitality – Ohrid, Republic of North Macedonia
- **Prof. Petar Pepur, PhD**
University of Split, Croatia
- **Prof. Korhan Arun, PhD**
Namik Kemal University, Tekirdağ, Turkey
- **Prof. Yuliya Yorgova, PhD**
Burgas Free University, Bulgaria
- **Jelena Stankovic, PhD**
University of Nis, Serbia
- **Jovica Stankovic, PhD**
University of Nis, Serbia
- **Prof. Gerhard Fiolka, PhD**
University of Fribourg, Switzerland
- **Prof. Haluk Kabaalioglu, PhD**
Yeditepe University, Turkey
- **Prof. Silva Alves, PhD,**
University of Lisbon, Portugal
- **Hanneke van Brugge, DHC mult**
Appeldoorn, The Netherlands
- **Prof. Elena Torina**
Tula State Pedagogical University "L. N. Tolstoy", Tula, Russia
- **Prof. Violeta Jotova**
Direction Pediatrics at St. Marina University Hospital - Varna, Bulgaria, Chair ESPE Postgraduate Qualification Committee
- **Prof. Tanya Timeva, MD, PhD**
Obstetrics and Gynecology Hospital "Dr. Shterev", Sofia, Bulgaria
- **Prof. Kiril Stoychev, PhD,**
Institute of Metal Science, Equipment and Technologies “Acad. A. Balevsci” with Hydroaerodinamics centre – BAS, Bulgaria
- **Assoc. Prof. Mark Shamtsyan, PhD**
Technical University, Saint Petersburg, Russia

- **Assoc. Prof. Oleksii Gubenia, PhD**
National University of Food Technologie, Kiev, Ukraine
- **Prof. Olexandr Zaichuk, DSc**
Ukrainian State University of Chemical Technology, Dnepropetrovsk, Ukraine
- **Prof. Eugene Stefanski, DSc**
Samara University, Russia
- **Assoc. Prof. Tatiana Strokovskaya, PhD**
International University of Nature “Dubna”, Dubna, Russia
- **Prof. DSc. Petar Sotirow**
Maria Curie-Sklodowska University of Lublin, Poland
- **Prof. Papken Ehasar Hovsepian**
Sheffield Hallam University, Sheffield, UK
- **Accos. Prof. Krassimir Dochev Dochev, PhD**
University of Portsmouth School of Engineering, UK
- **Mariana Yordanova Docheva, PhD**
University of Portsmouth School of Engineering, UK
- **Assoc. Prof. Ivan Antonov Lukanov, PhD**
University of Botswana, Faculty of Engineering and Technology, Gaborone, Botswana
- **Assoc. Prof. Petko Vladav Petkov, PhD**
Research Associate Cardiff University, UK
- **Prof. Stepan Terzian DSc**
Bulgarian Academy of Science, Bulgaria
- **Prof. Gabriel Negreanu, PhD**
University Politehnica of Bucharest, Romania

ORGANISING COMMITTEE

◆ **ORGANIZED BY: UNIVERSITY OF RUSE (UR) AND UNION OF SCIENTISTS (US) - RUSE**

◆ **ORGANISING COMMITTEE:**

• **Chairperson:**

Prof. DTSc. Hristo Beloev, DHC mult., Academician of Bulgarian Academy of Sciences - Rector of UR, Chairperson of US - Ruse

• **Scientific Secretary:**

Prof. Diana Antonova PhD, Vice-Rector Research, dantonova@uni-ruse.bg, 082/888 249

• **THEMATIC FIELDS:**

- **Agricultural Machinery and Technologies, Agrarian Sciences and Veterinary Medicine**
- **Maintenance and Reliability**
- **Thermal, Hydro- and Pneumatic Equipment**
- **Ecology and Conservation**
- **Industrial Design**
Assoc. Prof. Plamen Manev, pmanev@uni-ruse.bg, 082 888 485
- **Didactics, Pedagogy and Methodology of training in...; (16.10., Silistra)**
Assoc. Prof. Diana Zhelezova-Mindizova, PhD, dmindizova@uni-ruse.bg
- **Linguistics; Theory of Literature and History; Philosophy; (16.10., Silistra)**
Assoc. Prof. Todorka Georgieva, DcS, tgeorgieva@uni-ruse.bg
- **E-Learning; Technical Sciences; (16.10., Silistra)**
Assoc. Prof. Evgenia Goranova, PhD, egoranova@uni-ruse.bg
- **Chemical Technologies (05-06.11., Razgrad)**
- **Biotechnologies and Food Technologies (05-06.11., Razgrad)**
Assoc. Prof. Tsvetan Dimitrov, PhD, conf_rz@abv.bg, 0887 631 645
- **Mechanical Engineering and Machine-building Technologies**
Prof. Ivelin Ivanov, PhD, ivivanov@uni-ruse.bg, +359 82 888 472
- **Electrical Engineering, Electronics and Automation**
Assoc. Prof. Boris Evstatiev, PhD, bevstatiev@uni-ruse.bg, 082 888 371
- **Communication and Computer Systems**
Assoc. Prof. Galina Ivanova, PhD, giivanova@uni-ruse.bg, 082 888 855
Pr. Assist. Ivanka Tsvetkova, PhD, itsvetkova@uni-ruse.bg, 082 888 836
- **Transport and Machine Science**
Assoc. Prof. Simeon Iliev, PhD, spi@uni-ruse.bg, 082 888 331
- **Sustainable and intelligent transport systems, technologies and logistics**
Prof. Velizara Pencheva, PhD, vpencheva@uni-ruse.bg, 082 888 558, 082 888 608

- **Economics and Management**
Pr. Assist. Miroslava Boneva, PhD, mboneva@uni-ruse.bg, 082/888 776
Pr. Assist. Elizar Stanev, PhD, eastanev@uni-ruse.bg, 082/888 557
- **European studies and International Security**
Prof. Vladimir Chukov, DSc, vlachul@gmail.com, +359 82 825 667
Assoc. Prof. Mimi Kornazheva, PhD, mkornazheva@uni-ruse.bg, +359 82 825 667
- **Linguoculturology, Intercultural and Political Communication**
Prof. Juliana Popova, PhD, jppopova@uni-ruse.bg, +359 82 888 255
Pr. Assist. Hristina Sokolova, PhD, hsokolova@uni-ruse.bg, +359878537015
- **Mathematics, Informatics and Physics**
Prof. Tsvetomir Vasilev, PhD,
tvasilev@uni-ruse.bg, 082/888 475
- **Education – Research and Innovations**
Assoc. Prof. Emilia Velikova, PhD,
evelikova@uni-ruse.bg, 0885 635 874
- **Pedagogy and Psychology**
Assoc. Prof. Bagryana Ilieva, PhD,
bilieva@uni-ruse.bg 082 888 219
- **History, Ethnology and Folklore**
Pr. Assist. Reneta Zlateva, PhD
rzlateva@uni-ruse.bg, 082/888 752
- **Linguistics, Literature and Art Science**
Assoc. Prof. Velislava Doneva, PhD,
doneva_v@uni-ruse.bg, 0886 060 299
- **Health Promotion**
Assoc. Prof. Stefka Mindova, PhD,
smindova@uni-ruse.bg, 0882 895 149
- **Social Work**
Assoc. Prof. Silvia Krushkova, PhD, skrushkova@uni-ruse.bg, 0882517554
Pr. Assist. Ana Popova, PhD, apopova@uni-ruse.bg, 0889 874219
- **Medical and Clinical Diagnostic Activities**
Prof. Nikola Sabev, DSc,
nsabev@uni-ruse.bg, 0882 123 305
- **Health Care**
Pr. Assist. Tsveta Hristova, PhD,
tshristova@uni-ruse.bg, 0878 389 793
- **Law**
Assoc. Prof. Elitsa Kumanova, PhD,
ekumanova@uni-ruse.bg, 0884 980 050
- **National Security**
Assoc. Prof. Milen Ivanov, DSc,
poligon@abv.bg, 082 888 736
- **Quality of Higher Education**
Prof. Ivanichka Serbezova, PhD, iserbezova@uni-ruse.bg
Daniela Todorova, dtodorova@uni-ruse.bg, 082 888 378

• **REVIEWERS**

Prof. Ing. Krassimir Enimanev, DSc
Prof. Ing. Svetoslav Dimkov, PhD
Prof. Albena Kraeva-Miteva, PhD
Prof. Ivo Malakov, DTSc
Prof. Dyanko Minchev, DSc
Prof. Rusi Marinov, DSc
Prof. Julia Yorgova, PhD
Prof. Milanka Slavova, PhD
Prof. Stanimir Stoyanov, PhD
Assoc. Prof. Elitsa Petrova, DSc
Assoc. Prof. Ing.-Mat. Nina Gergova, PhD
Assoc. Prof. Ing. Danko Tonev, PhD
Assoc. Prof. Ing. Galina Ivanova, PhD
Assoc. Prof. Ing. Ivan Mitev, PhD
Assoc. Prof. Ing. Ivanka Georgieva, PhD
Assoc. Prof. Aneta Marichova, PhD
Assoc. Prof. Emil Kotsev, PhD
Assoc. Prof. Ivanka Dimitrova, PhD
Assoc. Prof. Ivanka Peeva, PhD
Assoc. Prof. Lyudmila Mihaylova, PhD
Assoc. Prof. Maria Kehayova-Stoycheva, PhD
Assoc. Prof. Michal Stoyanov, PhD
Assoc. Prof. Petya Ivanova, PhD
Assoc. Prof. Plamen Yordanov, PhD
Assoc. Prof. Radka Ivanova, PhD
Assoc. Prof. Radostin Vazov, PhD
Assoc. Prof. Radostina Popova, PhD
Assoc. Prof. Stilian Stefanov, PhD
Assoc. Prof. Vanya Tsonkova, PhD
Assoc. Prof. Veneta Hristova, PhD
Assoc. Prof. Veselin Popov, PhD
Pr. Assist. Prof. Ing. Dimitar Dimitrov, PhD
Pr. Assist. Prof. Ing. Emil Yankov, PhD
Pr. Assist. Prof. Anelia Paneva, PhD
Pr. Assist. Prof. Boncho Mitev, PhD
Pr. Assist. Prof. Damyan Kirechev, PhD
Pr. Assist. Prof. Dimitar Kolev, PhD
Pr. Assist. Prof. Magdalena Andreeva, PhD
Pr. Assist. Prof. Pavlina Ivanova, PhD
Pr. Assist. Prof. Shteryo Nozharov, PhD
Pr. Assist. Prof. Yavor Stanev, PhD
Desislava Kalcheva, PhD
Galina Ruseva, PhD

ECONOMICS AND MANAGEMENT

Content

1. FRI-ONLINE-1-EM1-01 Some Management Aspects of the Implementation of the Internet of Things <i>Milena Kirova</i>	13
2. FRI-ONLINE-1-EM1-02 Comparison of methods for attendance tracking for offline and online events in educational organizations <i>Igor Sheludko</i>	18
3. FRI-ONLINE-1-EM1-03 Case Study: Managing the Monitoring System for Attendance Tracking Using Survey Administration Software <i>Igor Sheludko</i>	20
4. FRI-ONLINE-1-EM1-04 Production Planning as Key Element for the Operational Effectiveness of Industrial Enterprises <i>Plamen Penchev, Pavel Vitliemov</i>	29
5. FRI-ONLINE-1-EM1-05 The Model of Maturity as a Factor for Sustainable Development of Organizations <i>Neli Babekova, Pavel Vitliemov</i>	39
6. FRI-ONLINE-1-EM1-06 „KPI“ Management as Key Element for the Operational Effectiveness of Automotive Industry <i>Georgi Valeriev Georgiev, Pavel Vitliemov</i>	46
7. FRI-ONLINE-1-EM1-07 Intrapreneurship Improvement in A Machine Building Firm Through the ISO 9001:2015 Principles <i>Denitsa Fileva, Daniel Pavlov</i>	54
8. FRI-ONLINE-1-EM1-08 Development of Elements in System of Quantitative Indicators for Monitoring Internal Entrepreneurship <i>Denitsa Fileva, Anton Nedyalkov</i>	59
9. FRI-ONLINE-1-EM1-09 Social Media Influencers as Digital Entrepreneurs <i>Milena Todorova</i>	65
10. FRI-ONLINE-1-EM1-10 Improving the Organization and Safety of Work in Industrial Enterprises in A Pandemic Condition <i>Svilen Kunev</i>	73
11. FRI-ONLINE-1-EM1-11 Research of Consumer Resistance in Perception of A New Product in the Conditions of Covid Pandemic <i>Svilena Ruskova, Svilen Kunev</i>	80
12. FRI-ONLINE-1-EM1-12 Research the Impact of the Change in the Organization Caused by the Covid Pandemic	82

	<i>Svilena Ruskova</i>	
13.	FRI-ONLINE-1-EM1-13 Co-management – An Alternative Approach to Decision Making <i>Svilena Ruskova, Dima Spasova</i>	89
14.	FRI-ONLINE-1-EM1-14 Reinforce Skills of Students and Teachers to Enhance of Higher Education in Moldova <i>Bozhana Stoycheva</i>	95
15.	FRI-ONLINE-1-EM1-15 Challenges to Human Resources in Service Management <i>Anton Nedyalkov</i>	102
16.	FRI-ONLINE-1-EM1-16 Cycle of Success or Cycle of Failure: Which One is Appropriate for Service Organizations <i>Anton Nedyalkov</i>	108
17.	FRI-ONLINE-1-EM2-01 Saving and Consumption Spending in Bulgaria During the Covid19 Pandemic <i>Kamelia Assenova</i>	114
18.	FRI-ONLINE-1-EM2-02 Who Gets a Covid-19 Vaccine? A Cross Sectional Study <i>Aleksandar Kosuliev, Elizar Stanev</i>	120
19.	FRI-ONLINE-1-EM2-03 The Effects of Covid-19 on the Bulgarian Labour Market <i>Aleksandar Kosuliev</i>	125
20.	FRI-ONLINE-1-EM2-04 The Impact of Covid-19 on Household Income in Bulgaria <i>Aleksandar Kosuliev</i>	130
21.	FRI-ONLINE-1-EM2-05 Impact of Covid-19 on Safe Work <i>Tzvetelin Gueorguiev, Aleksandar Kosuliev</i>	136
22.	FRI-ONLINE-1-EM2-06 Advantages of Pan-European Personal Pension Product for Bulgarian Citizens <i>Galina Stoyanova</i>	142
23.	FRI-ONLINE-1-EM2-07 Adjustment to Adverse Shocks without Exchange Rate Changes <i>Petar Penchev</i>	150
24.	FRI-ONLINE-1-EM2-08 Exchange Rate Uncertainty and Economic Growth <i>Petar Penchev</i>	154
25.	FRI-ONLINE-1-EM2-09 Debt Financing of Municipal Investments in Bulgaria <i>Nora Stoyanova</i>	159
26.	FRI-ONLINE-1-EM2-10 Structure of Material Consumption – Comparative Study <i>Dafina Doneva</i>	172
27.	FRI-ONLINE-1-EM2-11 Diffusion of Green Innovation <i>Dafina Doneva, Daniela Ilieva</i>	176

28. FRI-ONLINE-1-EM2-12	183
Sustainability through Green Marketing <i>Daniela Ilieva</i>	
29. FRI-ONLINE-1-EM2-13	189
Scale of the Bulgarian Markets for Beekeeping Products <i>Lyubomir Lyubenov</i>	
30. FRI-ONLINE-1-EM2-14	194
Management System Transformation while Moving to Digital Economy <i>Anna Egorenko, Olga Fomenko</i>	
31. FRI-ONLINE-1-EM2-16	195
Concepts of Digital Business Transformation Management <i>Miroslava Boneva</i>	
32. FRI-ONLINE-1-EM2-17	203
Study of the Benefits of Life Insurance for Young People in Bulgaria <i>Galina Stoyanova</i>	