**The 14th International Conference on
Development and Application Systems
DAS 2018**

**May 24-26, 2018
Suceava - Romania**

www.dasconference.ro

Conference Program

Organized by

**Stefan cel Mare University of Suceava
Faculty of Electrical Engineering
and Computer Science**

With technical sponsorship from

**IEEE Industry Applications Society
Romania Section
IEEE Conference Record #42809**

The 14th International Conference on **Development and Application Systems** (DAS), organized biennially by *the Faculty of Electrical Engineering and Computer Science, Stefan cel Mare University of Suceava*, has four sections:

A - Systems, Process Control and Automation

B - Communications and Computer Networks

C - Electronics and Computer Aided Engineering

D - Software Engineering and Information Technologies

The scope of the Conference is to bring together specialists from universities, research institutes and companies for useful ideas exchanges regarding concerns in their domains. The latest progresses in these fields, as well as the newest scientific and technical results, will be presented and discussed during the Conference.

Participant registration will take place at Registration Desk at USV, Building E, on May 23 between 4:00 PM and 8:00 PM and on May 24, between 8:00 AM and 11:30 AM.

CONTACT INFORMATION

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Thursday - May 24, 2018 – *Day Summary*

09:00 - 09:10   Opening Ceremony

USV, Building E, Aula

09:10 - 11:10   Plenary Session 1

USV, Building E, Aula

11:10 - 12:00   Coffee break

USV, Building E, Aula

12:00 - 18:45   Technical Session Track 1

*Details about paper presentation schedule for
Section A and Section B on pages 11 and 14
respectively*

12:00 - 19:00   Technical Session Track 2

*Details about paper presentation schedule for
Section C and Section D on pages 16 and 18
respectively*

14:00 - 15:30   Lunch break

Restaurant Vivendi - @RestaurantVivendi

17:30 - 17:45   Coffee break

USV, Building E, Aula

19:30 - 23:00   Cocktail Party

Conacul Domnesc Restaurant - @ConaculDomnesc

Friday - May 25, 2018 – *Day Summary*

10:00 - 12:00   Plenary Session 2

USV, Building E, Aula

12:00 - 12:30   Coffee break

USV, Building E, Aula

12:30 - 14:00   Round Table

USV, Building E, Aula – Technology Education in the 21st Century

14:00 - 15:30   Lunch break

Restaurant Vivendi - @RestaurantVivendi

15:00 - 16:00   H&S 2018 Public Presentations

USV, Building E, Atrium

17:00 - 17:30   H&S 2018 Award Ceremony

USV, Building E, Atrium

18:00 - 18:30   Departure to Gura Humorului

USV, Parking lot of Building A

20:00 - 23:00   Official Dinner

Hotel Best Western Gura Humorului - @bwbucovina

Saturday - May 26, 2018 – *Day Summary*

09:00 - 10:00   Breakfast

Hotel Best Western Gura Humorului - @bwbucovina

10:00 - 14:00   Monasteries Tour

Gura Humorului / Voronet / Free time

14:00 - 17:00   Traditional Lunch

Hotel Toaca Belvue - @hoteltoacabellevue

17:15 - 18:30   Departure to Suceava

Thursday - May 24, 2018

09:00 - 09:10   Opening Ceremony

USV, Building E, Aula

Welcome message addressed by
Adrian GRAUR
DAS 2018 Conference Chair
Mihai DIMIAN
Vice-Rector of Stefan cel Mare University of Suceava

09:10 - 11:10   Plenary Session 1

USV, Building E, Aula

Keynote Address ---------

Instrumentation of Transmission line Towers for Real-Time Conditions Monitoring
Nathan IDA
IEEE Fellow
Department of Electrical and Computer Engineering
The University of Akron, USA

Keynote Address ---------

Smart Software as Future Challenge
Detlef STREITFERDT
Ilmenau University of Technology, Software Architectures and Product Lines Group, Ilmenau, GERMANY

Keynote Address ---------

Extracting Knowledge from Electrical Demand Data
Gianfranco CHICCO
IEEE Fellow
Galileo Ferraris Department of Energy, Politecnico di Torino, ITALY

11:10 - 12:00   Coffee break

USV, Building E, Aula

12:00 - 18:15   Technical Session Track 1

Details about Section A and Section B on pages 8 and 15 respectively

12:00 - 18:45   Technical Session Track 2

Details about Section C and Section D on pages 13 and 18 respectively

14:00 - 15:30   Lunch break

Restaurant Vivendi - @RestaurantVivendi

17:30 - 17:45   Coffee break

USV, Building E, Aula

19:30 - 23:00   Cocktail Party

Conacul Domnesc Restaurant - @ConaculDomnesc

Friday - May 25, 2018

10:00 - 12:00   Plenary Session 2

USV, Building E, Aula

Keynote Address ---------

Encoders for Simultaneous Sensing of Position and Speed - a Bottleneck in Electrical Drives with Digital Control

Ralph M. KENNEL
IEEE Senior Member
Department of Electrical Engineering and Information Technology, Technical University of Munich, GERMANY

Keynote Address ---------

Modular Multilevel Converters - A New Technology
Remus TEODORESCU
IEEE Fellow
Department of Energy Technology, Aalborg University, Aalborg, DENMARK

Keynote Address ---------

DC-DC Converters - Non-Conventional Topologies and Applications
Felix A. HIMMELSTOSS
IEEE Fellow
Department of Energy and Industrial Electronics, University of Applied Sciences Technikum Wien, AUSTRIA

12:00 - 12:30   Coffee break

USV, Building E, Aula

12:30 - 14:00   Round table

USV, Building D, Aula – "Technology Education in the 21st Century" Round Table

14:00 - 15:30   Lunch break

Restaurant Vivendi - @RestaurantVivendi

15:00 - 16:00   H&S 2018 Public Presentations

USV, Building E, Atrium

17:00 - 17:30   H&S 2018 Award Ceremony

USV, Building E, Atrium

18:00 - 18:30   Departure to Gura Humorului

USV, Parking lot of Building A
The transport from Suceava to Gura Humorului will be provided by the organizers. Accommodation for the 25.05 to 26.05 night, for all DAS 2018 participants, will be assured at Best Western Hotel in Gura Humorului, based on the participants' options in the Registration form.

20:00 - 23:00   Official Dinner

Hotel Best Western Gura Humorului - @bwbucovina

Thursday - May 24, 2018

Location: USV, Building E, Aula

Technical Session Track 1
Section A: Systems, Process Control and Automation

12:00 - 16:45   Section A

Session Co-Chairs

Gianfranco CHICCO
Politecnico di Torino, Italy
Cornel TURCU
Stefan cel Mare University of Suceava, Romania
Vasile Gheorghiță GĂITAN
Stefan cel Mare University of Suceava, Romania
Radu Dumitru PENTIUC
Stefan cel Mare University of Suceava, Romania

Paper ID: A01 - 12:00 - 12:15
Additive Noise Removal using a Nonlinear Hyperbolic PDE-based Model
Tudor BARBU
Institute of Computer Science, Romanian Academy, Iasi

Paper ID: A07 - 12:15 - 12:30
Integration of Renewable Energy Sources using Generation Expansion Planning
Catalina Alexandra SIMA[1], George Cristian LAZAROIU[1,2], Virgil DUMBRAVA[1], Mihai TIRSU[3], Victor GALBURA[3]
[1] Politehnica University of Bucharest, Romania
[2] Maritima University of Contanta, Romania
[3] Institute of Power Engineering, Academy of Sciences of Moldova, Moldova

Paper ID: A13 - 12:30 - 12:45
m-GreenCARDIO Embedded System Designed for Out-of-Hospital Cardiac Patients
Ionel ZAGAN[1,2], Vasile Gheorghita GAITAN[1,2], Nicolai IUGA[1], Adrian BREZULIANU[3]
[1] Faculty of Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies, and Distributed Systems

for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania
[3] Gheorghe Asachi Technical University of Iaşi, Romania

Paper ID: A14 - 12:45 - 13:00

Synthesis Analysis and Evaluation of Hardware Scheduler based on Different Scheduling Algorithms
Ionel ZAGAN[1,2]

[1] Faculty of Electrical Engineering and Computer Science, Stefan cel Mare University, Suceava, Romania
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies, and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

Paper ID: A18 - 13:00 - 13:15

Modeling and Control of a Low Power Wind Turbine
Dana-Alexandra CIUPAGEANU[1], Gheorghe LAZAROIU[1], Viorel BERBECE[1], Mihai TIRSU[2], Victor GALBURA[2]
[1] Politehnica University of Bucharest, Romania
[2] Institute of Power Engineering, Academy of Sciences of Moldova, Moldova

Paper ID: A19 - 13:15 - 13:30

Combining the MIT and Lyapunov Stability Adaptive Methods for Second Order Systems
Simona COMAN, Cristian BOLDISOR, Costin CIUSDEL
Transilvania University, Brasov, Romania

Paper ID: A22 - 13:30 - 13:45

Microgrid Primary Control And Continuous-Time Operation
Andrei HORHOIANU, Mircea EREMIA, Mihai SANDULEAC
Politehnica University of Bucharest, Romania

Paper ID: A24 - 13:45 - 14:00

Study of a System for Reducing Electricity Losses
Mihai CENUSA, Mihaela POIENAR, Dan Laurențiu MILICI
Stefan cel Mare University, Suceava, Romania

// Lunch break 14:00 – 15:30

Paper ID: A26 - 15:30 - 15:45

The Experimental Method for Tuning of PID Controller Based on the Maximum Stability Degree Criterion
Ion FIODOROV, Irina COJUHARI, Bartolomeu IZVOREANU, Dumitru MORARU, Sorin BOTNARU, Radu MELNIC
Technical University of Moldova, Chisinau, Republic of Moldova

Paper ID: A32 - 15:45 - 16:00

Multi-Agent Cognitive System for Optimal Solution Search
Victor ABABII, Viorica SUDACEVSCHI, Silvia MUNTEANU, Dimitrie BORDIAN, Dmitri CALUGARI, Ana NISTIRIUC, Sergiu DILEVSCHI
Technical University of Moldova, Chisinau, Republic of Moldova

Paper ID: A42 - 16:00 - 16:15

Design of Vertical Earth Grounding with Rectangular Outline by Minimizing its Total Metal Mass
Virgil MAIER, Claudiu CIORCA, Sorin G. PAVEL and Horia G. BELEIU, Iulian BIROU
Technical University of Cluj-Napoca, Romania

Paper ID: A44 - 16:15 - 16:30

Performance Analysis of Tasks Synchronization for Real Time Operating Systems
Ioan UNGUREAN[1,2], Nicoleta Cristina GAITAN[1,2]
[1] Faculty of Electrical Engineering and Computer Science, Stefan cel Mare University of Suceava
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies, and Distributed Systems for Fabrication and Control (MANSiD) Suceava, Romania

Paper ID: A49 - 16:30 - 16:45

Practical and Low-cost Solution for the Temperature Control of a Substrate Heater for Thin Film Deposition
Albert-Zsombor FEKETE, Laszlo JAKAB-FARKAS
Sapientia - Hungarian University of Transylvania, Tg. Mures, Romania

// Coffee break 16:45 – 17:00

Thursday - May 24, 2018

Location: USV, Building E, Aula

Technical Session Track 1
Section B: Communications and Computer Networks

17:00 - 18:15   Section B

Session Co-Chairs

Remus TEODORESCU
Aalborg University, Denmark
Nicolae Dumitru ALEXANDRU
Gheorghe Asachi Technical University of Iaşi, Romania
Alin Dan POTORAC
Stefan cel Mare University of Suceava, Romania

Paper ID: B04 - 17:00 - 17:15
LoRaWAN Communication Protocol: The New Era of IoT
Alexandru LAVRIC[1], Adrian Ioan PETRARIU[1,2]
[1] Stefan cel Mare University of Suceava, Romania
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

Paper ID: B17 - 17:15 - 17:30
Vehicular Cloud: Overview and Security Issues
Lucian GAFENCU, Luminita SCRIPCARIU
Gheorghe Asachi Technical University of Iaşi, Romania

Paper ID: B21 - 17:30 - 17:45
An Analysis of Improved Nyquist Pulses Based on Pearson Distance
Nicolae Dumitru ALEXANDRU[1], Alexandra Ligia BALAN[2]
[1] Gheorghe Asachi Technical University of Iasi, Romania
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

Paper ID: B29 - 17:45 - 18:00
Bandwidth Management Application in a Directory Service Environment

Marius C. BREABAN, Adrian GRAUR, Alin D. POTORAC, Doru G. BALAN

Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

Paper ID: B50 - 18:00 - 18:15

Vertical Polarized Antennas for Low-VHF Radio Meteor Detection

Cezar-Eduard LESANU[1], Adrian DONE[2], Alin-Mihai CAILEAN[1,2], Adrian GRAUR[1,2]

[1] Stefan cel Mare University of Suceava, Romania
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

Thursday - May 24, 2018

Location: USV, Building D, E005

Technical Session Track 2

Section C: Electronics and Computer Aided Engineering

12:00 - 13:45   Section C

Session Co-Chairs

Nathan IDA
University of Akron, USA
Eugen COCA
Stefan cel Mare University of Suceava, Romania
Adrian PETRARIU
Stefan cel Mare University of Suceava, Romania

Paper ID: C10 - 12:00 - 12:15
System for Monitoring of Hot Spot Temperature of Power Transformer Windings Using Fiber Optic Sensors, Kalman Filter and SCADA Integration
Marcel NICOLA, Claudiu-Ionel NICOLA, Marian DUTA, Dumitru SACERDOTIANU, Iulian HUREZEANU
National Institute for Research, Development and Testing in Electrical Engineering - ICMET Craiova, Romania

Paper ID: C25 - 12:15 - 12:30
Stand for Investigating the Measuring Methodical Errors of Microcontrollers Average Energy Power Consumption
Oleksandr OSOLINSKYI[1], Volodymyr KOCHAN[1], Grygoriy SAPOZHNYK[1], Anatoliy SACHENKO[2]
[1] Ternopil National Economic University, Ternopil, Ukraine
[2] Kazimierz Pulaski University of Technology and Humanities in Radom, Poland

Paper ID: C27 - 12:30 - 12:45
Porous spinel-type oxide semiconductors for high-performance acetone sensors
Corneliu DOROFTEI[1], Otilia Sanda PRELIPCEANU[1], Aurelian CARLESCU[1], Liviu LEONTIE[1], Marius PRELIPCEANU[2]
[1] Integrated Center of Environmental Science Studies in the Northeast Region (CERNESIM), Alexandru Ioan Cuza University, Iasi, Romania

[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

Paper ID: C36 - 12:45 - 13:00

Green power supply for an intelligent traffic light enhanced with visible light communications capabilities
Adrian DONE[1,2], Elena-Daniela OLARIU[1,2], Alin-Mihai CAILEAN[1,2], Sebastian-Andrei AVATAMANITEI[1,2]
[1] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania
[2] Stefan cel Mare University of Suceava, Romania

Paper ID: C40 - 13:00 - 13:15

Harmonic Compensation with Active Loads Designed for Power Quality Improvement in Microgrids
Ioan SERBAN
Transilvania University, Brasov, Romania

Paper ID: C43 - 13:15 – 13:30

An Evaluation of an Ultra-High Frequency Electromagnetic Fields Energy and Recovery Solutions
Aurel CHIRAP, Eugen COCA, Dan Alin POTORAC
Stefan cel Mare University of Suceava, Romania

Paper ID: C53 - 13:30 - 13:45

VLC for Vehicular Communications: A Multiple Input Multiple Output (MIMO) Approach
Adrian Ioan PETRARIU[1,2], Alexandru LAVRIC[1], Eugen COCA[1]
[1] Stefan cel Mare University of Suceava, Romania
[2] Integrated Center for Research, Development and Innovation in Advanced Materials, Nanotechnologies and Distributed Systems for Fabrication and Control (MANSiD), Stefan cel Mare University of Suceava, Romania

// Lunch break 14:00 – 15:30

Thursday - May 24, 2018

Location: USV, Building D, E005

Technical Session Track 2
Section D: Software Engineering and Information Technologies

15:30 - 18:45   Section D

Session Co-Chairs

Detlef STREITFERDT
Ilmenau University of Technology, Germany
Cristina Elena TURCU
STEFAN cel Mare University of Suceava, Romania
Stefan Gheorghe PENTIUC
Stefan cel Mare University of Suceava, Romania
Radu Daniel VATAVU
Stefan cel Mare University of Suceava, Romania

Paper ID: D03 - 15:30 - 15:45
Detection the Mid-Sagittal Plane in Brain Slice MR Images by Using Local Ternary Pattern
Faiq BAJI, Mihai MOCANU, Didi POPA
University of Craiova, Romania

Paper ID: D12 - 15:45 - 16:00
Drive Me: a Interaction System Between Human and Robot
Stefan-Gheorghe PENTIUC, Oana-Mihaela VULTUR
Stefan cel Mare of University Suceava, Romania

Paper ID: D15 - 16:00 - 16:15
VErGE: A System for Collecting Voice, Eye Gaze, Gesture, and EEG Data for Experimental Studies
Ovidiu GHERMAN, Ovidiu SCHIPOR, Bogdan-Florin GHERAN
MintViz Lab | MANSiD Research Center, Stefan cel Mare of University Suceava, Romania

Paper ID: D28 - 16:15 - 16:30
Determining Neural Network Architecture Using Data Mining Techniques
Mohamed Lafif TEJ, Stefan HOLBAN
Politehnica University of Timisoara, Romania
Paper ID: D31 - 16:30 - 16:45

Discovering Electricity Consumption Over Time for Residential Consumers Through Cluster Analysis

Tania CERQUITELLI[1], Gianfranco CHICCO[1], Evelina Di CORSO[1], Francesco VENTURA[1], Giuseppe MONTESANO[2], Anita Del PIZZO[2], Alicia Mateo GONZÁLEZ[3], Eduardo Martin SOBRINO[3]

[1] Politecnico di Torino, Italy
[2] ENEL Foundation, Italy
[3] ENDESA Energia, Spain

// Coffee break 16:45 – 17:00

Paper ID: D33 - 17:00 - 17:15
Security Assessment of OpenStack cloud using outside and inside software tools
Ionel GORDIN, Adrian GRAUR, Dan Alin POTORAC, Doru BALAN
Stefan cel Mare University of Suceava, Romania

Paper ID: D37 - 17:15 - 17:30
Enabling IoT connectivity for Modbus networks by using IoT edge gateways
Ghenadie COROTINSCHI, Vasile Gheorghita GAITAN
Stefan cel Mare University of Suceava, Romania

Paper ID: D38 - 17:30 - 17:45
Determining Optimal Neural Network Architecture Using Regression Methods
Mohamed Lafif TEJ, Stefan HOLBAN
Politehnica University of Timisoara, Romania

Paper ID: D41 - 17:45 - 18:00
Tube Center Detection in SEM Images of Titania Nanotube Arrays
Adrian CIOBANU[1], Mihaela LUCA[1], Tudor BARBU[1], Claudia Teodora TEODORESCU-SOARE[2]
[1] Institute of Computer Science, Romanian Academy, Iasi
[2] Alexandru Ioan Cuza University of Iasi, Romania

Paper ID: D48 - 18:00 - 18:15
Automated Video Surveillance System based on Hierarchical Object Identification
Diana ZAHORODNIA[1], Yuriy PIGOVSKY[1], Pavlo BYKOVYY[1], Viktor KRYLOV[1], Anatoliy SACHENKO[2], Agnieszka MOLGA[2]
[1] Ternopil National Economic University, Ukraine
[2] Kazimierz Pulaski University of Technology and Humanities of Radom, Poland

Paper ID: D51 - 18:15 - 18:30

One Pattern Recognition Method for Complex Geometric Clusters Configuration
Valerii FRATAVCHAN, Tonia FRATAVCHAN
Yuriy Fedkovych Chernivtsi National University, Ukraine

Paper ID: D52 - 18:30 - 18:45
Improving the Adaptive Neuro-Fuzzy Method to Intellectualize Multisensor Signals Processing
Su JUN[1], Nataliia ROSHCHUPKINA[2], Oleksiy ROSHCHUPKIN[2], Volodymyr KOCHAN[3]
[1] Hubei University of Technology, Wuhan, China
[2] Yuriy Fedkovych Chernivtsi National University, Ukraine
[3] Ternopil National Economic University, Ternopil, Ukraine

Notes