

Location of the Workshop:

**Google Meet link:**

<https://meet.google.com/uhy-jrfr-ppm>



———— SZENT ISTVÁN UNIVERSITY GÖDÖLLŐ ————

**Department of Physics and Process Control**

26<sup>th</sup> WORKSHOP ON

**ENERGY AND ENVIRONMENT**

PROGRAM

December 10-11, 2020

Gödöllő, Hungary

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**Program  
(on-line)**

**December 10 (Thursday)**

14.30-17.00 Registration  
Visiting the Department of Physics and Process Control  
Visiting the solar installations

**December 11 (Friday)**

08.30-08.40 Opening the Workshop by:  
Prof. I. Farkas Head of Doctoral School of Mechanical Engineering  
Szent István University, Gödöllő, Hungary  
Prof. I. Szabó Vice rector for Education  
Szent István University, Gödöllő, Hungary  
Prof. L. Kátai Dean of Faculty of Mechanical Engineering  
Szent István University, Gödöllő, Hungary

*Session 1*

*Chairmen: Prof. I. Farkas  
Dr. D. Rusirawan*

08.40-09.00 I. Farkas: Achievements of the Hungarian Section of the International Solar Energy Society  
09.00-09.10 D. Rusirawan and I. Farkas: Research and project activities in photovoltaic field at ITENAS Bandung  
09.10-09.20 D. Atsu, I. Seres and I. Farkas: Power quality assessment of microinverters for grid-connected PV systems in low voltage networks  
09.20-09.30 G. Pintér, N. Baranyai Hegedűsné, A. Vincze and H. Zsiborács: The potentials of using power-to-gas technology for balancing solar power plants in Hungary  
09.30-09.40 G. Habtay, J. Buzas and I. Farkas: Solar energy potentials in Eritrea cities  
09.40-09.50 I.R. Nikolényi and J. Tóth: Maximum efficiency study on polythiophene based all-polymer  
09.50-10.00 Mensour Almadhhachi, I. Farkas and I. Seres: Designing a hybrid tree by a combination between black body and solar cells  
10.00-10.10 L. Lidyawati, D. Rusirawan and I. Farkas: Forecasting of photovoltaic modules characteristics using ARIMA and Fuzzy time series models  
10.10-10.40 COFFE BREAK

*Session 2*

*Chairmen: Prof. P. Weihs  
Dr. Cs. Mészáros*

10.40-11.00 P. Weihs, A. Frisch-Niggemeyer, S. Schreier, M. Revesz, C. Gützer: Potential of digital cameras for scientific investigations: case studies  
11.00-11.10 Cs. Mészáros and Á. Bálint: Symmetry aspects of the optical scattering processes in solar materials with incommensurate modulation  
11.10-11.20 I. Kocsány, I. Seres and I. Farkas: Determining the absorbed solar radiation in solar collectors  
11.20-11.30 Asaad Yasseen, I. Farkas and I. Seres: Performance enhancement of PTSC by selective absorber coatings  
11.30-11.40 Ahssan M.A. Alshibil, P. Víg and I. Farkas: TRNSYS simulation of a flat plate-based hybrid solar collector system  
11.40-11.50 Maytham H. Machi, J. Buzás and I. Farkas: Thermal performance of solar air collectors used in modular solar dryer  
11.50-12.00 Ahmed M. Ajeena, P. Víg and I. Farkas: Performance enhancement of flat plate solar collector using nanocoating and nanofluids  
12.00-12.10 P. Víg and J. Tóth: Effect of water droplets on solar modules performance  
12.10-12.40 LUNCH BREAK

*Session 3*

*Chairmen: Dr. I. Seres  
Dr. S. Bartha*

12.40-13.00 I. Seres, B. Bán, Cs. N. Dénes, M. Krasznai, M. Reményi, K. Tóth, P. Unyi: Sensor development for the ESA Cansat project  
13.00-13.10 S. Bartha, L.C. Duarte, F. Carvalheiro, S. di Bernardino: Landfill deposit gas emissions: Evaluation and measurement techniques, influence to the local air pollution  
13.10-13.20 P. Hermanucz, G. Gécz: Energy analysis of air source heat pump defrost cycle  
13.20-13.30 A.M. Ahmed and A.R. Imre: Efficiency of organic Rankine cycles with hybrid solar-geothermal heating source  
13.30-13.40 D.I. Permana, I. Farkas: Design and construction of organic Rankine cycle powered by solar thermal heat source  
13.40-13.50 M.H. Ali, Z. Kurjak and J. Beke: Enhancement the efficiency of photovoltaic solar cell by using combination earth-air heat exchanger with assist solar chimney  
13.50-14.00 Sz. Páger, A. Veres, and G. Gécz: Hydronic modelling and basic circuits grouping  
14.00-14.10 L.R. Fekti, L. Szekely and G. Gécz: Researching the effect of pollutants on comfort inside residential buildings with different energy classifications  
14.10-14.20 A. Qor-el-aïne, G. Gécz and A. Béres: Source regions of PM10 particles during high concentration days in Kecskemét Hungary  
14.20-14.30 CLOSING