



**2021 Sixth Junior Conference on Lighting**

## **LIGHTING 2021**

23 – 25 September 2021 // Hybrid Conference

Technically Co-sponsored by IEEE | conference record [#49406](#)

Financially Co-sponsored by the Technical University of Sofia

### **FINAL PROGRAM**



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**National Committee for Lighting in Bulgaria (NKO)**

*Member of the International Commission on Illumination (CIE)*



**Technical University of Sofia**



**Technical University of Gabrovo**



**IEEE – Bulgarian Section**

*Lighting 2021 is partially funded under an Agreement 211ДН0026-01 as part of the "Days of Science" initiative of the Technical University of Sofia*

## FULL PROGRAM

\* Times are listed in Eastern European Summer Time (EEST)

### [TIME CONVERTER](#)

**Thursday, September 23, 2021**

13:00 – 13:30 EEST

**Opening ceremony** (Virtual Room)

13:30 – 15:00 EEST

**Ergonomics and Physiology of Vision. Human Aspects of Lighting** (Virtual Room)

**Daylight Design and Architectural Lighting**

**Interior, Exterior and Road Lighting. Lighting Quality. Light Pollution**

Chair: Plamen Tsankov, *Technical University of Gabrovo, Bulgaria*

**Application of the Finite Element Method to Predict the Colors Obtained by Oxidation Laser Marking of AISI 304 Stainless Steel**

L. Lazov, I. Draganov, V. Hristov, *Bulgaria*

**Influence of Electromagnetic Waves on the Human Body**

N. Dolchinkov, O. Loktionov, I. Korolev, B. Karaivanova Dolchinkova, *Bulgaria*

**Analysis of the Influence of Mechanical Damages of Thin Layer Cdte Photovoltaic Panels on Their Electrical Characteristics**

P. Tsankov, E. Stanev, I. Stoyanov, *Bulgaria*

**Architectural Lighting Design of the Technical University Educational Campus**

D. Pavlov, K. Nikolova, K. Guergiev, *Bulgaria*

**Relationship between Lighting Levels and Vehicle Speed in the Urban Area of Ljubljana**

L. Wei, G. Bizjak, M. Kobav, *Slovenia*

15:00 – 15:30 EEST

Break

15:30 – 17:00 EEST

**Daylight Design and Architectural Lighting** (Virtual Room)

**Interior, Exterior and Road Lighting. Lighting Quality. Light Pollution**

Chair: Orlin Petrov, *University of Ruse, Bulgaria*

**Why Transforming Cities Should Rethink the Scale of Urban Lighting**

D. Maccheroni, F. Leccese, G. Salvadori, G. Tambellini, *Italy*

**Effect of Daylight Related Parameters on Lighting Energy Performance According to EN 15193-1:2017**

A. Kilic, E. R. Harputluoğlu, A. Köknel Yener, *Turkey*

**Advertisement Lighting Applications. Qualitative and Quantitative Criteria**

K. Nikolova, D. Pavlov, R. Stanev, K. Kassev, *Bulgaria*

**Investigation algorithms for virus detection based on neural networks and machine learning**

L. Nenov, D. Chanev, *Bulgaria*

**Friday, September 24, 2021**

**9:00 – 10:30 EEST**

**LED Lighting. Daylight Design and Architectural Lighting** (Virtual Room)

Chair: Iva Petrinska, *Bulgaria*

**Impact of Light Distributions on Emotion and Intention to Visit a Fine Dining Restaurant**

A. Kamyabi, C. Bstieler, *Thailand*

**Investigation of the Color Rendering of LED Luminaires for Human Centric Lighting**

I. Petrinska, *Bulgaria*

**Considerations for Some Immunity Tests to the Disturbances to Which LED Luminaires Are Subjected**

Silvia Maria DIGA, N. Diga, P.-M. Mircea, I. Patru, G. Vochescu, *Romania*

**Comparison of the Electrical Parameters of Industrial Lighting Systems with LEDs**

O. Petrov, A. Yasharov, B. Yordanov, *Bulgaria*

**10:30 – 11:00 EEST**

Break

**11:00 – 12:30 EEST**

**Photobiology and non- Visual Effects of Light. Renewable Energy Sources and Lighting** (Virtual Room)

**Lighting Technology (lamps, luminaires, lighting controls).**

Chair: Kamelia Nikolova, *Technical University of Sofia, Bulgaria*

**Development of Educational Laboratory Equipment for Estimation of the Photometric Flicker Caused by LED Light Sources**

I. Petrinska, D. Ivanov, *Bulgaria*

**Stand for Measuring Correlated Color Temperature**

D. Pavlov, K. Todorova, K. Guergiev, *Bulgaria*

**Embedded Mobile System for Monitoring of Liquid Foods**

I. Dragnev, K. Kolev, *Bulgaria*

**Energy and Resource Efficiency of a Biomass Power Plant: Useful Solutions**

D. Koeva, *Bulgaria*

**12:30 – 14:00 EEST**

Break

**14:00 – 15:30 EEST**

**Lighting Technology (lamps, luminaires, lighting controls)** (Virtual Room)

Chair: Gergana Vacheva, *Technical University of Sofia, Bulgaria*

**Surface Analysis Study of Laser Marking Process of Stainless Steel X5CrNi18-10**

V. Hristov, L. Lazov, E. Jankov, N. Petrov, T. Karadzhov, R. Minev, *Bulgaria*

**Investigation of the Laser Effect of Micromechanical Properties of Stainless Steel AISI 304 During the Marking Process**

V. Hristov, L. Lazov, E. Yankov, R. Minev, T. Karadzhov, N. Petrov, *Bulgaria*

**Application of the Finite Element Method to Predict the Colors Obtained by Oxidation Laser Marking of AISI 304 Stainless Steel**

L. Lazov, I. Draganov, V. Hristov, *Bulgaria*

**Three-Dimensional Thermal Modeling of Industrial LED Luminaire**

H. Ibrishimov, P. Tsankov, M. Yovchev, *Bulgaria*

15:30 – 16:00 EEST

Break

16:00 – 17:30 EEST

**Lighting Technology (lamps, luminaires, lighting controls)** (Virtual Room)

Chair: Dilyan Ivanov, *Technical University of Sofia, Bulgaria*

**High Frequency Resonant Current Source of “Boucherot Type” for LED Supply**

K. Nikolova, *Bulgaria*

**Modeling of Resonant LLC Converter for LED Lighting Applications**

G. Vacheva, V. Dimitrov, N. Hinov, *Bulgaria*

**Method for Construction and Verification of the Stator Winding on a Permanent Magnet Synchronous Motor**

T. Stoyanov, *Bulgaria*

**Laser Ablation on Copper Fragments as a Function of Pulse Duration**

R. Singh Ghalot, L. Lazov, *Bulgaria*

**Saturday, September 25, 2021**

9:00 – 10:30 EEST

**LED Lighting** (Virtual Room)

Chair: Kiril Kassev, *Technical University of Sofia, Bulgaria*

**Outdoor Lighting and Time-Variant Communication**

A. Papacharalampopoulos, T. Balafoutis, *Greece*

**Rehabilitation of Street Lighting Systems According to EU Green Public Procurement Criteria**

A. Pachamanov, K. Nikolova, K. Hristov, K. Georgiev, *Bulgaria*

**Renewable Energy Sources and Reduction of Operating Costs for Public Lighting in Municipalities**

A. Pachamanov, B. Boychev, K. Nikolova, K. Hristov, K. Georgiev, *Bulgaria*

**Individual Control of Street Luminaries by Speed of Change of Natural Light in the Evening and by Calendars in the Morning**

A. Pachamanov, D. Pavlov, K. Kassev, K. Nikolova, *Bulgaria*

10:30 – 10:45 EEST

Break

10:45 – 11:45 EEST

**Lighting Technology (lamps, luminaires, lighting controls)** (Virtual Room)

**Management of Lighting and Renewable Energy Sources**

Chair: Dimitar Pavlov, *Technical University of Sofia, Bulgaria*

**A study of Cyber Attacks: In the Healthcare Sector**

K. Bhosale, M. Nenova, G. Iliev, *Bulgaria*

**An optical method for online blood parameters control**

I. Ivanov, V. E. Gueorguiev, B. Ivanov, D. V. Georgieva, *Bulgaria*

**Regional PCKS architecture and security problems**

I. Ivanov, V. E. Gueorguiev, K. Kassev, D. V. Georgieva, L. Nenov, *Bulgaria*

11:45 – 12:00 EEST

**Closing ceremony** (Virtual Room)

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## PATRONS

## GENERAL



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### Conference Topics

1. LED Lighting
2. Photobiology and non-Visual Effects of Light
3. Lighting Technology (lamps, luminaires, lighting controls)
4. Lighting Calculations. Photometry and Colorimetry
5. Energy Efficiency and Economic Aspects of Lighting
6. Ergonomics and Physiology of Vision. Human Aspects of Lighting
7. Interior, Exterior and Road Lighting. Lighting Quality. Light Pollution
8. Renewable Energy Sources and Lighting
9. Management of Lighting and Renewable Energy Sources
10. Daylight Design and Architectural Lighting
11. Common Lighting Aspects. Standards and Legislation in Lighting