

12th National Conference with International Participation "Electronica 2021", May 27 - 28, 2021, Sofia, Bulgaria (IEEE #52725)

Electronica 2021 was organized by Union of Electronics, Electrical Engineering and Communications (CEEC), Technical University of Sofia (TU-Sofia), IEEE Bulgaria Section and Faculty of Electronic Engineering and Technologies in cooperation with the Federation of the Scientific and Technical Unions in Bulgaria (FNTS), Bulgarian Academy of Sciences (BAS), University of Applied Sciences Offenburg, Riga Technical University, VDE - Germany and leading international companies in the field of electronics.

The conference is a traditional forum for presenting new scientific and application results in Electronics and a platform for organization of Round-table discussion about the traditions, problems, and the future of Electronics in Bulgaria and for discussions with students and business representatives about the Job and carrier problems in Electronics. The main topics of the presentations are in the fields of Biomedical Engineering, Circuits and Systems, Education and Learning Technologies, Instrumentation and Measurement, Industrial Electronics, Information and Communication Technologies, Microelectronics and nanoelectronics, Power electronics, Mechatronic systems, Advanced materials, IoT applications, Electromobility.

Electronica 2021 was held in a hybrid form – based at the House of Science and Technology and in a virtual Webex environment. The conference was also included in the program "Days of Science at TU-Sofia 2021". The presented papers were published in the IEEE Xplore Digital Library and indexed in the Scopus database. All papers were subject to thorough peer review and sent to the IEEE after language editing. The rejection rate was more than 30%.

The proceedings of the previous editions of the conferences "ELECTRONICA 2018" and "ELECTRONICA 2019" have an impact (SJR), respectively for "ELECTRONICA 2018" (2020 SJR = 0.11) <https://www.scimagojr.com/journalsearch.php?q=21100876734&tip=sid&clean=0>, and for "ELECTRONICA 2019" (2020 SJR = 0.11) <https://www.scimagojr.com/journalsearch.php?q=21100931017&tip=sid&clean=0>.

Accompanying the conference, the traditional Roundtable on the "Opportunities for cooperation within the framework of the European University of Technology (EUT+) and business needs" was held. The discussion was led by Prof. Marius Neag - Technical University of Cluj-Napoca, Romania, Assoc. Prof. Elitsa Gieva - Technical University of Sofia, Bulgaria and included representatives of companies specialized in the field of electronics. LEM Bulgaria, FESTO made presentations on possible areas for research cooperation, prototype production, and student summer internships.

The total number of participants with articles was 135, of them from TU-Sofia - 66. Foreign participants – 14, with 7 articles. Young scientists and doctoral students - 17.

The plenary reports were by Dr. Christophe Couteau - Associate Professor at the University of Technology of Troyes, France and Dr. Massimiliano Luna - National Research Council of Italy (CNR) - Institute of Marine Engineering (INM). The foreign participants were from Italy, France, Latvia, Germany, Kazakhstan, Romania, and Kosovo.

A total of 70 scientific articles were presented in the following thematic Sections:

- Electronic circuits and systems
- Information and communication technologies
- IoT applications
- Industrial and power electronics
- Nanoelectronics and new materials
- Measurements in electronics
- Innovation management in electronics

Honorary chairmen: Ivan Kralov - TU-Sofia; Ivan Yatchev - FNTS and CEEC

Activity Managers: Ivo Iliev (TU - Sofia) and

Seferin Mirtchev (CEEC) (<http://ceec.fnts.bg>)

Participant fee: 200 (early registration)/220 EUR, IEEE Members Discount is 15%, Students - 100 Eur.

Funding sources: CEEC.

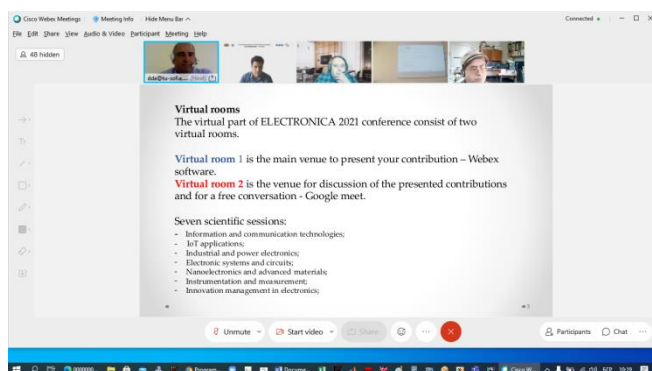
Place: National Science and Technical Centre, 108 Rakovski Str., 1000 Sofia, Bulgaria.

Website: <http://e-university.tu-sofia.bg/e-conf/?konf=176>

Web archive in Bulgarian: <http://ceec.fnts.bg/archives.html>

Screenshots from the conference:

Opening of the conference.



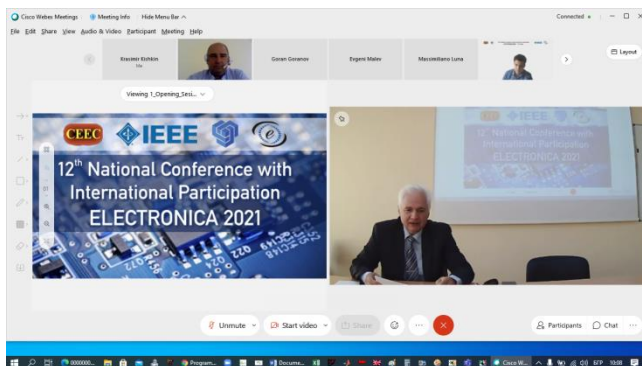
Program Timetable

XII NATIONAL CONFERENCE WITH INTERNATIONAL PARTICIPATION "ELECTRONICA 2021"

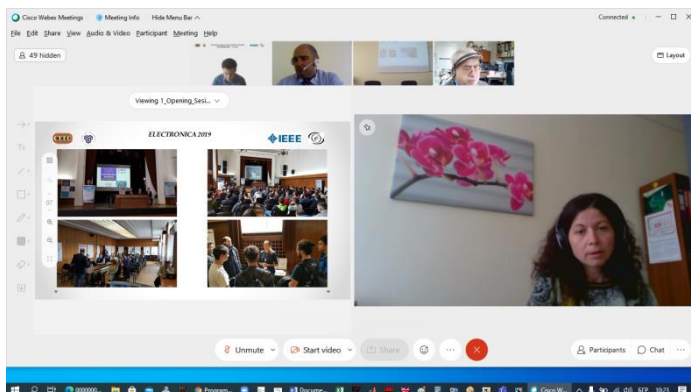
	Hour	Event	Discussion
Wednesday 26 May	15.00-18.00	Registration of participants & test the system (Virtual room 1) Webex software	
Thursday 27 May	10.00-10.30	Opening Session Hall 105A & Virtual room 1	
	10.30-12.45	Scientific Session 1 Hall 105A & Virtual room 1	Virtual room 2
	12.45-13.15	Lunch break	Virtual room 2
	13.15-15.15	Scientific Session 2 Hall 105A & Virtual room 1	Virtual room 2
	15.15-15.30	Coffee break	Virtual room 2
	15.30-16.15	Invited papers Hall 105A & Virtual room 1	
		Discussion Opportunities for cooperation within the framework of the European University of Technology (EUT+) and business needs Hall 105A & Virtual room 1	
	16.30-17.30		
	17.30-18.00	„Alumni meeting“ - Informal discussion Hall 105A & Virtual room 1	
	Friday 28 May	09.00-11.15	Scientific Session 3 Hall 4 & Virtual room 1
11.15-11.30		Coffee break	Virtual room 2
11.30-13.00		Scientific Session 4 Hall 4 & Virtual room 1	Virtual room 2
13.00-13.30		Lunch break	Virtual room 2
13.30-15.00		Scientific Session 5 Hall 4 & Virtual room 1	Virtual room 2
15.30-16.30		Invited papers Hall 4 & Virtual room 1	
16.45-17.45		Scientific Session 6 Hall 4 & Virtual room 1	Virtual room 2
17.45-18.00		Coffee break	Virtual room 2
18.00-18.30		Scientific Session 7 Hall 4 & Virtual room 1	Virtual room 2
18:30		Closing Session Hall 4 & Virtual room 1	
18.30-19.00	Формат "ЕЛЕКТРОНИКА" Hall 4 & Virtual room 1	Virtual room 2	

<https://e-university.bg/e-conf/index.php?konf-176>

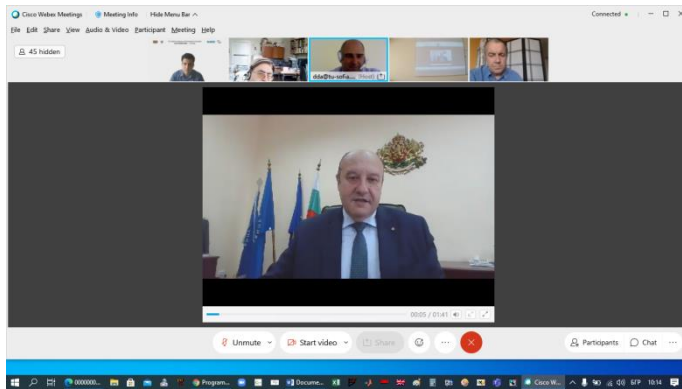
Greetings of the participants from Prof. D.Sc. eng. Ivan Yatchev - President of CEEC



Greetings of the participants from Assoc. Prof. PhD. Eng. Valya Markova – IEEE Bulgarian section

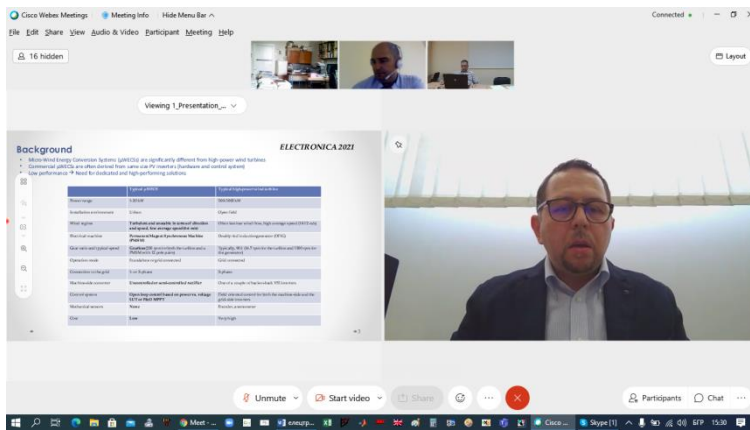


Greeting from the Rector of TU-Sofia Prof. D.Sc. eng. Ivan Kralov

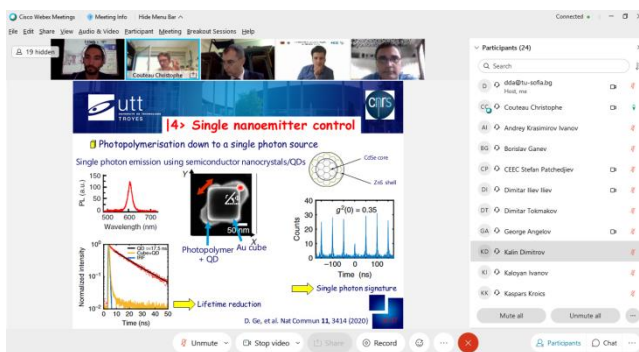


Moments from the presentations by participants from:

- Italy



- France



- Germany

The screenshot shows a Cisco Webex meeting interface. The main content is a presentation slide titled "Zukunftige Lösung: Kunde" (Future Solution: Customer). The slide features a blue header, a central image of a car's interior dashboard, and a list of bullet points: "Sensor-monitored components", "Optimal maintenance date", and "Belt variant freely selectable according to conditions". Below the text are three buttons labeled "Reorder Variant A", "Variante B", and "Variante C", along with a calendar icon. On the left side of the slide, there is a vertical text box that says "Predictive maintenance to increase availability". The meeting controls at the bottom include "Unmute", "Start video", "Share", "Record", and "Participants" (32).

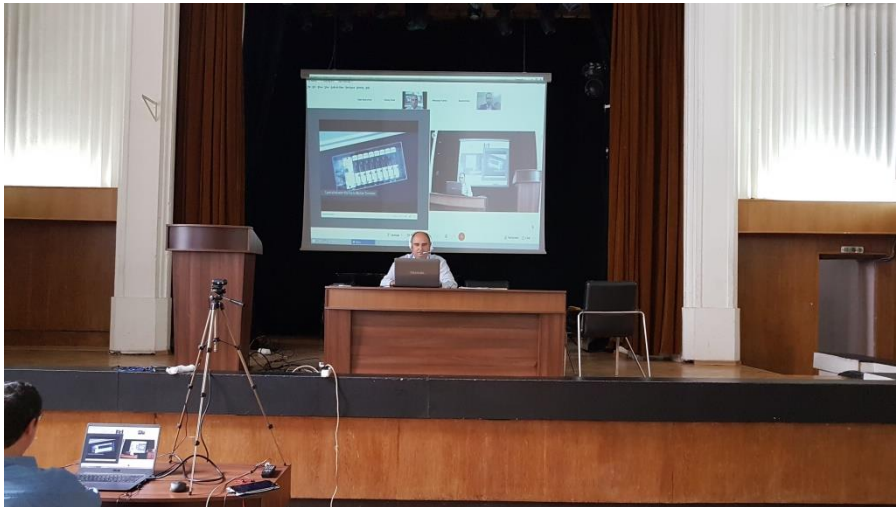
- Latvia

The screenshot shows a Cisco Webex meeting interface. The main content is a presentation slide titled "Two-phase induction motor inverter circuits" from "ELECTRONICA 2021". The slide displays two circuit diagrams for inverter circuits, with a green checkmark on the left and a photo of a microchip on the right. A video feed of a participant named "Kaspars Kroics" is visible on the right side of the screen. The meeting controls at the bottom include "Unmute", "Stop video", "Share", "Record", and "Participants" (20 hidden).

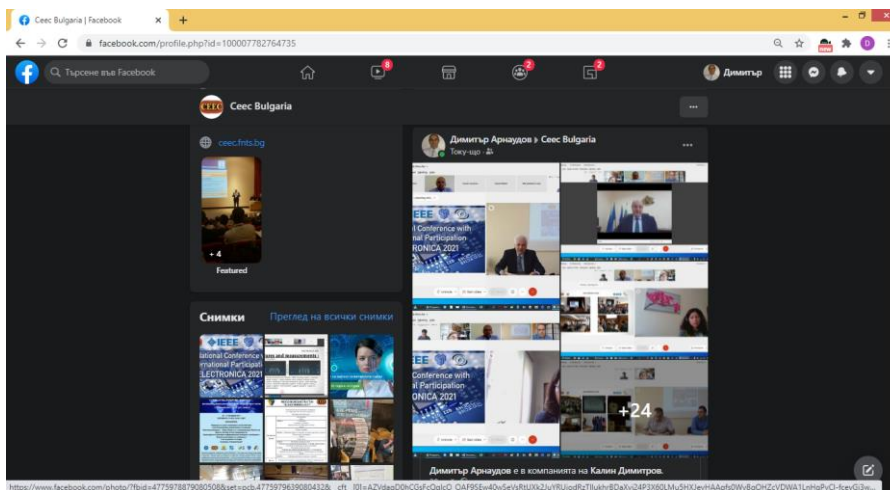
- Romania

The screenshot shows a Cisco Webex meeting interface. The main content is a presentation slide titled "Research Group in Renewable Energies". The slide lists the "Director: Prof. Dr. Ing. Dorin Petreus" and provides contact information for the Applied Electronics Department at the Technical University of Cluj-Napoca, Romania. A video feed of a participant is visible on the right side of the screen. The meeting controls at the bottom include "Unmute", "Start video", "Share", and "Participants" (13 hidden).

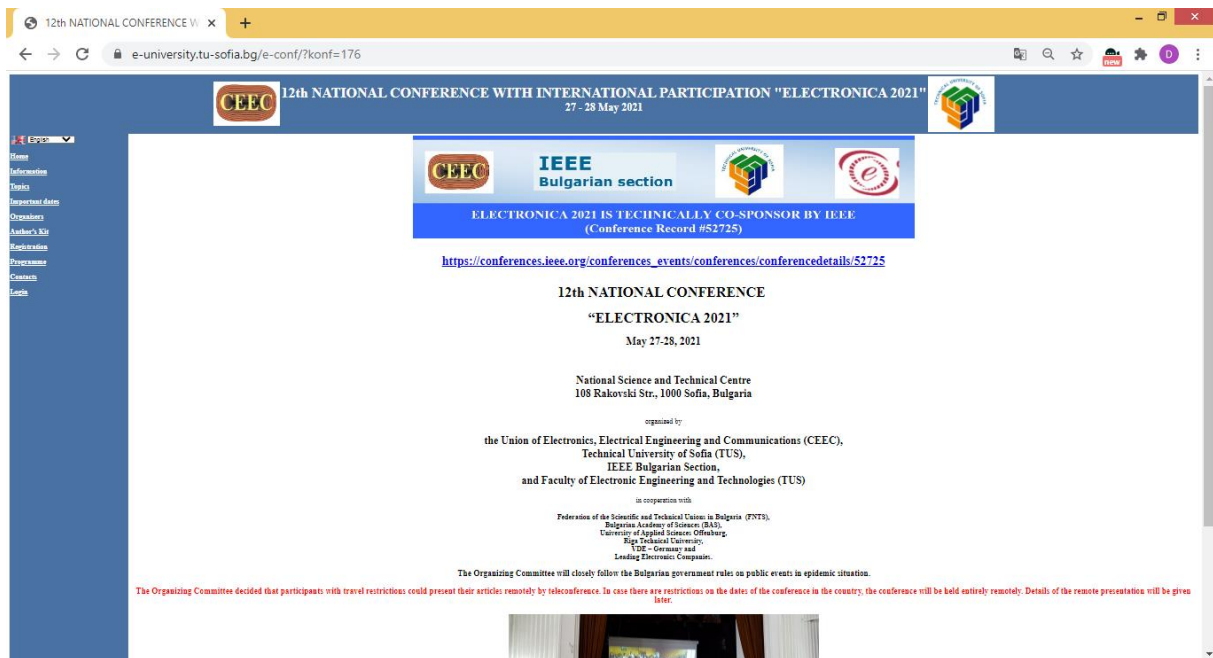
- Hybrid presentations from the hall in NSTH and virtual conference rooms



Facebook photo album share



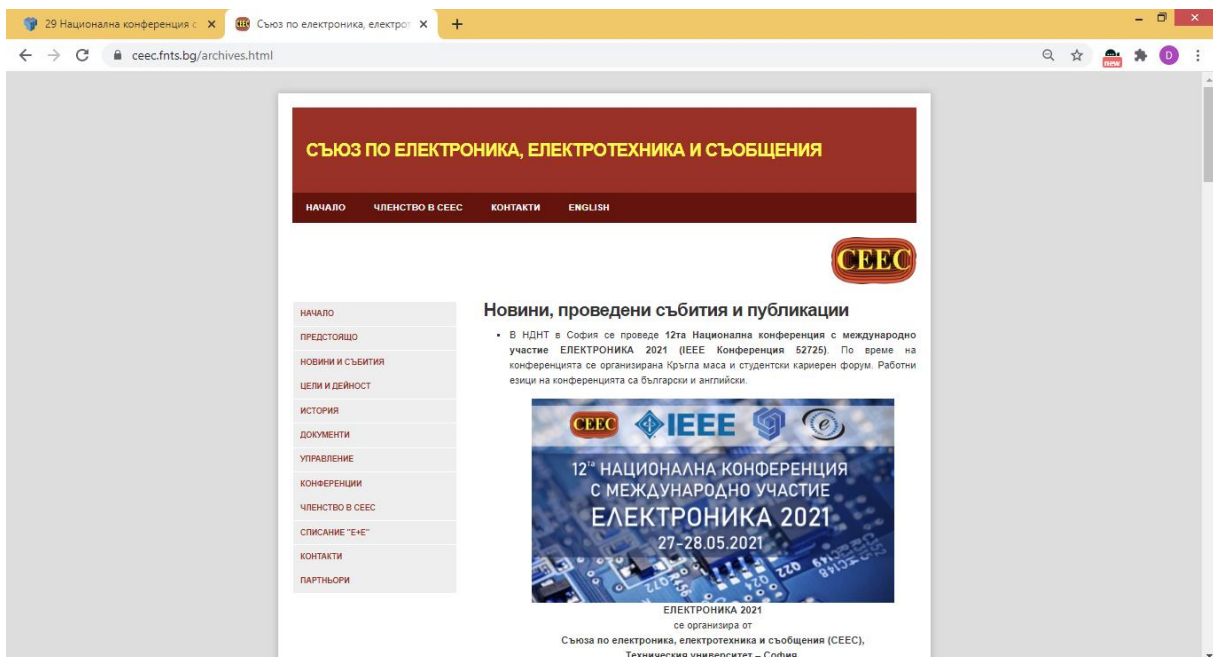
Conference website



The screenshot shows a web browser window with the address bar displaying "e-university.tu-sofia.bg/e-conf/?konf=176". The page header features the CEEC logo and the text "12th NATIONAL CONFERENCE WITH INTERNATIONAL PARTICIPATION 'ELECTRONICA 2021' 27-28 May 2021". A navigation menu on the left includes links for Home, Information, Topics, Department details, Organizers, Author's Kit, Registration, Downloads, Contacts, and Links. The main content area contains logos for CEEC, IEEE Bulgarian section, and the Technical University of Sofia. A blue banner states "ELECTRONICA 2021 IS TECHNICALLY CO-SPONSOR BY IEEE (Conference Record #52725)". Below this is a URL: https://conferences.ieee.org/conferences_events/conferences/conferencedetails/52725. The central text reads: "12th NATIONAL CONFERENCE 'ELECTRONICA 2021' May 27-28, 2021 National Science and Technical Centre 108 Rakovski Str., 1000 Sofia, Bulgaria". It lists organizers: "the Union of Electronics, Electrical Engineering and Communications (CEECE), Technical University of Sofia (TUS), IEEE Bulgarian Section, and Faculty of Electronic Engineering and Technologies (TUS)". It also mentions cooperation with the "Federation of the Scientific and Technical Unions in Bulgaria (FNTS), Bulgarian Academy of Sciences (BAS), University of Applied Sciences, Offenburg, Eng. Technical University, TUM - Germany and Leading Electronics Companies". A red notice at the bottom states: "The Organizing Committee decided that participants with travel restrictions could present their articles remotely by teleconference. In case there are restrictions on the dates of the conference in the country, the conference will be held entirely remotely. Details of the remote presentation will be given later." A small image of a conference stage is visible at the bottom.

News and archive site in Bulgarian at: <http://ceec.fnts.bg/archives.html>

In English: http://ceec.fnts.bg/archives_en.html



The screenshot shows a web browser window with the address bar displaying "ceec.fnts.bg/archives.html". The page has a dark red header with the text "СЪЮЗ ПО ЕЛЕКТРОНИКА, ЕЛЕКТРОТЕХНИКА И СЪОБЩЕНИЯ" and navigation links: НАЧАЛО, ЧЛЕНСТВО В СЕЕС, КОНТАКТИ, ENGLISH. A sidebar on the left lists menu items: НАЧАЛО, ПРЕДСТОЯЩО, НОВИНИ И СЪБИТИЯ, ЦЕЛИ И ДЕЙНОСТ, ИСТОРИЯ, ДОКУМЕНТИ, УПРАВЛЕНИЕ, КОНФЕРЕНЦИИ, ЧЛЕНСТВО В СЕЕС, СПИСАНИЕ "Е-Е", КОНТАКТИ, ПАРТНЬОРИ. The main content area features a CEEC logo and the heading "Новини, проведени събития и публикации". A bullet point states: "В НДНТ в София се проведе 12та Национална конференция с международно участие ЕЛЕКТРОНИКА 2021 (IEEE Конференция 52725). По време на конференцията се организира Кръгла маса и студентски кариерен форум. Работни езика на конференцията са български и английски." Below this is a promotional image for the "12th NATIONAL CONFERENCE WITH INTERNATIONAL PARTICIPATION ELECTRONICA 2021 27-28.05.2021". The image shows logos for CEEC, IEEE, and the Technical University of Sofia, along with a circuit board background. Below the image, it says "ЕЛЕКТРОНИКА 2021 се организира от Съюза по електроника, електротехника и съобщения (СЕЕС), Техническият университет – София,".