

ORAL Presentation Program

***Please consider that the session and presentation hours are given according to the time zone in Ankara, Turkey.**

Nov 30, 2020 (Monday)	
OPENING SESSION (08:50 - 10:55)	HIGHLIGHTS AND RECENT DEVELOPMENTS IN SOLAR PV MANUFACTURING Chair: <i>Prof. Bülent G. Akinoğlu</i> (PVCon2020 Co-chair, METU-PHYS / METU-ESS / METU-GÜNAM, Turkey)
08:50 – 09:10	Welcome Speech: Raşit Turan & Bülent G. Akinoğlu (PVCon2020 Chairs, METU-GÜNAM, Turkey)
09:10 – 09:40	Keynote Speaker: Ron Sinton (Sinton Instruments, USA) <i>“Carrier recombination lifetime: Monitoring a critical parameter through the cell process”</i>
09:40 – 09:45	Q/A
09:45 – 10:15	Keynote Speaker: A. Buğrahan Karaveli (Ministry of Energy and Natural Resources, Turkey) <i>“Global trends and solar electricity perspectives of Turkey”</i>
10:15 – 10:20	Q/A
10:20 – 10:50	Keynote Speaker: Fırat Es (Kalyon PV, Turkey) <i>“KalyonPV – Integrated PV Manufacturing and R&D Roadmap”</i>
10:50 – 10:55	Q/A
Break	
SESSION 2 (11:00 - 13:10)	ADVANCED C-SI TECHNOLOGIES - I Chair: <i>Prof. Raşit Turan</i> (PVCon2020 Chair, METU-GÜNAM / METU-PHYS, Turkey)
11:00 – 11:30	Keynote Speaker: Radovan Kopecek (ISC Konstanz, Germany) <i>“PERC and future technologies after”</i>
11:30 – 11:35	Q/A
11:35 – 12:05	Keynote Speaker: Hisham Nasser (METU-GÜNAM, Turkey) <i>“Dopant-free carrier-selective hetero-contacts for efficient crystalline silicon solar cells”</i>
12:05 – 12:10	Q/A
12:10 – 12:25	Ergi Dönerçark (METU-GÜNAM, Turkey) <i>“Bifacial silicon hetero-contact solar cells”</i>
12:25 – 12:30	Q/A
12:30 – 12:45	Nabil Khelifati (CRTSE, Algeria) <i>“Phosphorus and boron co-diffusion in silicon for p-PERT solar cells application”</i>
12:45 – 12:50	Q/A
12:50 – 13:05	Gence Bektaş (METU-GÜNAM, Turkey) <i>“Simplified process flow for the fabrication of PERC solar cells with ion implanted emitter”</i>
13:05 – 13:10	Q/A
Lunch Break	

SESSION 3 (14:00 - 16:10)	ADVANCED C-SI TECHNOLOGIES - II Chair: <i>Assist. Prof. Selçuk Yerci</i> (METU-MNT / METU-EE / METU-GÜNAM, Turkey)
14:00 – 14:30	Keynote Speaker: Robby Peibst (ISFH, Germany) <i>“Passivating poly-Si on oxide contacts – from fundamental investigations towards industrial implementation”</i>
14:30 – 14:35	Q/A
14:35 – 15:05	Keynote Speaker: Veysel Ünsür (Necmettin Erbakan University, Turkey) <i>“Alternative approaches for metallization of silicon solar cells”</i>
15:05 – 15:10	Q/A
15:10 – 15:25	Gamze Kökbudak (METU-GÜNAM, Turkey) <i>“Utilization of MoOx/Ag local rear hole collecting contact in crystalline Si PERC solar cells”</i>
15:25 – 15:30	Q/A
15:30 – 15:45	Haris Mehmood (Information Technology University of the Punjab, Pakistan) <i>“Physical device simulation of dopant-free asymmetric silicon heterostructure solar cell featuring tungsten oxide and ultrathin silicon oxide as a hole-selective and passivation stack layer”</i>
15:45 – 15:50	Q/A
15:50 – 16:05	Serkan Erkan (Niğde Ömer Halisdemir University, Turkey) <i>“The fabrication of silicon based solar cells with graphene and molybdenum doped zinc oxide”</i>
16:05 – 16:10	Q/A
Break	
SESSION 4 (16:30 - 18:40)	ADVANCED DEVICE CONCEPTS AND NEW MATERIALS Chair: <i>Prof. Ali Çırpan</i> (METU-CHEM / METU-GÜNAM, Turkey)
16:30 – 16:45	Tuğba Hacrefendioğlu (Middle East Technical University, Turkey) <i>“Design of surface passivation techniques for PbTe quantum dots and application to photovoltaic devices”</i>
16:45 – 16:50	Q/A
16:50 – 17:05	Ali Altuntepe (Niğde Ömer Halisdemir University, Turkey) <i>“Hybrid transparent conductive electrode structure for solar cell application”</i>
17:05 – 17:10	Q/A
17:10 – 17:25	Mona Zolfaghari Borra (METU-GÜNAM, Turkey) <i>“Selective chemical removal of subsurface laser modified silicon for photovoltaics”</i>
17:25 – 17:30	Q/A
17:30 – 17:45	Parisa Sharif (Middle East Technical University, Turkey) <i>“Flexible polymer solar cell with modified multi-layer graphene electrodes”</i>
17:45 – 17:50	Q/A
17:50 – 18:05	Nuray Çelebi (Ankara Yıldırım Beyazıt University, Turkey) <i>“Star-shaped ZnO-CeO₂ Z-scheme heterostructures for photoelectrochemical water splitting”</i>
18:05 – 18:10	Q/A
18:10 – 18:35	Laurentiu Fara (Polytechnic University of Bucharest, Romania) <i>“Optimized Cu₂O/c-Si tandem heterojunction solar cells: Experimental and modeling investigation for defect analysis”</i>
18:35 – 18:40	Q/A

Dec 1, 2020 (Tuesday)	
SESSION 5 (09:00 - 10:35)	THIN FILM SOLAR CELLS - I Chair: <i>Prof. Mehmet Parlak</i> (METU-PHYS / METU-GÜNAM, Turkey)
09:00 – 09:30	Keynote Speaker: Mustafa Kulakçı (Eskişehir Technical University, Turkey) <i>“GaAs based III-V thin film flexible solar cells by epitaxial lift off (ELO) technique”</i>
09:30 – 09:35	Q/A
09:35 – 09:50	Ceren Korkut (METU-GÜNAM, Turkey) <i>“Laser crystallization of α-Ge thin-film via nanosecond pulsed infrared laser”</i>
09:50 – 09:55	Q/A
09:55 – 10:10	Hazal Gündoğan Kurtuldu (İzmir Institute Of Technology, Turkey) <i>“Effect of Ar gas flow rate on growth, structure and optical properties of sputtered Sb_2Se_3 absorber thin films for solar cells”</i>
10:10 – 10:15	Q/A
10:15 – 10:30	Teoman Özdal (Çukurova University, Turkey) <i>“Low cost solution based ZnO/Cu₂O heterostructures for photovoltaic applications”</i>
10:30 – 10:35	Q/A
Break	
SESSION 6 (11:00 - 12:20)	THIN FILM SOLAR CELLS - II Chair: <i>Prof. Görkem Günbaş</i> (METU-CHEM / METU-GÜNAM, Turkey)
11:00 – 11:15	Gizem Aydın (Şişecam, Turkey) <i>“Temperable single layer antireflection coatings for solar panel applications based on a dual alkoxysilane precursor chemistry”</i>
11:15 – 11:20	Q/A
11:20 – 11:35	Yassine Khaissa (Ibn Tofail University, Morocco) <i>“A new efficient synthesis of ZnS thin film using mist CVD technique”</i>
11:35 – 11:40	Q/A
11:40 – 11:55	Mehmet Ali Olğar (Niğde Ömer Halisdemir University, Turkey) <i>“Effect of stacking order and reaction temperature on properties of CZTS thin films”</i>
11:55 – 12:00	Q/A
12:00 – 12:15	Bünyamin Ümsür (Yozgat Bozok University, Turkey) <i>“Impact of RbF post deposition treatment on CdS/CIGSe and Zn(O,S)/CIGSe interfaces - A comparative HAXPES study”</i>
12:15 – 12:20	Q/A
Lunch Break	

SESSION 7 (14:00 - 16:00)	PEROVSKITE SOLAR CELLS & ORGANIC AND DYE SENSITIZED PV Chair: <i>Dr. Antonio Agresti</i> (University of Rome Tor Vergata, Italy)
14:00 – 14:15	Ümmügülsüm Güneş (Middle East Technical University, Turkey) <i>“2D perovskite layer based on novel organic cation for increased efficiency and stability”</i>
14:15 – 14:20	Q/A
14:20 – 14:35	Hamaneh Zarenezhad (Koç University, Turkey) <i>“Efficiency enhancement via efficient charge carrier transfer in halide perovskite solar cells fabricated by polymer additives”</i>
14:35 – 14:40	Q/A
14:40 – 14:55	Eda Alemdar Yılmaz (Middle East Technical University, Turkey) <i>“Efficient green OLEDs based on thermally activated delayed fluorescence butterfly-shape emitter”</i>
14:55 – 15:00	Q/A
15:00 – 15:15	Caner İdeş (Yozgat Bozok University, Turkey) <i>“Production and investigation of the flexible dye-sensitized solar cells by using binder-free TiO₂ paste as photoanode material”</i>
15:15 – 15:20	Q/A
15:20 – 15:35	Yusuf Çakmak (Konya Food and Agriculture University, Turkey) <i>“Employing near-IR absorbing bodipy chromophores as donor materials for the active layer of bulk-heterojunction solar cells”</i>
15:35 – 15:40	Q/A
15:40 – 15:55	Mustafa Yaşa (Middle East Technical University, Turkey) <i>“Efficient non-fullerene organic solar cells based on thienopyrroledione comprising random copolymers; effect of alkyl chains”</i>
15:55 – 16:00	Q/A
Break	
SESSION 8 (16:30 - 18:45)	OPTICS AND PHOTONICS FOR PV APPLICATIONS Chair: <i>Prof. Alpan Bek</i> (METU-PHYS / METU-GÜNAM, Turkey)
16:30 – 17:00	Keynote Speaker: Şener Oktik (Kadir Has University, Turkey) <i>“Transparent photovoltaic solar cells and solar windows”</i>
17:00 – 17:05	Q/A
17:05 – 17:20	Nasim Seyedpour Esmaeilzad (METU-GÜNAM, Turkey) <i>“Concentrated photovoltaics with shape controlled nanosphere”</i>
17:20 – 17:25	Q/A
17:25 – 17:40	Alim Yolalmaz (Middle East Technical University, Turkey) <i>“Deep learning-based spectral splitting and concentration of broadband light for solar cells applications”</i>
17:40 – 17:45	Q/A
17:45 – 18:00	Mehmet Koç (METU-GÜNAM, Turkey) <i>“Optical design guidelines for perovskite/perovskite tandem solar cells in a material independent approach”</i>
18:00 – 18:05	Q/A
18:05 – 18:20	Berk Nezir Gün (Middle East Technical University, Turkey) <i>“Control of spatial phase empowering spectral splitting and concentration of solar spectrum”</i>
18:20 – 18:25	Q/A
18:25 – 18:40	Tunç Bektaş (METU-GÜNAM, Turkey) <i>“SnSbSe₂ crystal: Growth by vertical Bridgman technique and investigation of its structural, optical and electrical properties”</i>
18:40 – 18:45	Q/A
18:45	POSTER AWARDS

Dec 2, 2020 (Wednesday)	
SESSION 9 (09:00 - 10:55)	ECONOMICS OF SOLAR PV Chair: <i>Prof. Aynur Eray</i> (Hacettepe University, Turkey)
09:00 – 09:30	Keynote Speaker: Huzur Keskin (Middle East Technical University, Turkey) <i>“Geopolitics of energy”</i>
09:30 – 09:35	Q/A
09:35 – 09:50	Yelda Erden Topal (Polytechnical University of Madrid, Spain) <i>“Review of socio-economic impacts of PV technology development in the developing countries context”</i>
09:50 – 09:55	Q/A
09:55 – 10:10	Metin Sever (Middle East Technical University, Turkey) <i>“Photovoltaic power plants financing models”</i>
10:10 – 10:15	Q/A
10:15 – 10:30	Raimon Bawazir (Ege University, Turkey) <i>“Correcting design of the current off-grid PV system in Aden city-Yemen”</i>
10:30 – 10:35	Q/A
10:35 – 10:50	Elşen Aydın (METU-GÜNAM, Turkey) <i>“A concentrating mini solar power system to overcome the market share”</i>
10:50 – 10:55	Q/A
Break	
SESSION 10 (11:00 - 13:20)	SOLAR ENERGY RESOURCE AND PV SOLAR INPUT ASSESSMENT & PV POWER PLANTS AND BIPV Chair: <i>Dr. A. Buğrahan Karaveli</i> (Ministry of Energy and Natural Resources, Turkey)
11:00 – 11:15	Deniz Gören (METU-NCC, Cyprus) <i>“Quality assessment of on-site solar radiation data and estimating global tilted irradiation in METU NCC”</i>
11:15 – 11:20	Q/A
11:20 – 11:35	Raimon Bawazir (Ege University, Turkey) <i>“Investigation of alternative horizontal solar radiation data source in the world”</i>
11:35 – 11:40	Q/A
11:40 – 11:55	Deniz Gören (METU-NCC, Cyprus) <i>“P50/P90 analysis of a solar PV plant in METU NCC using the empirical method and its comparison with my results”</i>
11:55 – 12:00	Q/A
12:00 – 12:15	Cihan Karaman (Ege University, Turkey) <i>“Effects of PV power plant penetrations on frequency and voltage in a distribution grid”</i>
12:15 – 12:20	Q/A
12:20 – 12:35	Emre Demirezen (METU-GÜNAM, Turkey) <i>“Monitoring and assessment of daily and seasonal photovoltaic heat island effect on Sekbandemirli rural region in Kütahya, Turkey”</i>
12:35 – 12:40	Q/A
12:40 – 12:55	Ahadollah Azami (Eastern Mediterranean University, Turkey) <i>“Energy-efficient building form and BIPV performance”</i>
12:55 – 13:00	Q/A
13:00 – 13:15	Raimon Bawazir (Ege University, Turkey) <i>“Designing of an on-grid and off-grid PV system with battery”</i>
13:15 – 13:20	Q/A
Lunch Break	

SESSION 11 (14:00 - 15:50)	EXtremePV Workshop Chair: <i>Dr. Hisham Nasser</i> (METU-GÜNAM, Turkey)
14:00 – 14:30	Keynote Speaker: Said Ahzi (Hamad Bin Khalifa University, Qatar) <i>“A multiphysics approach for the computational analysis and prediction of performance and fatigue failure of PV panels”</i>
14:30 – 14:35	Q/A
14:35 – 15:05	Keynote Speaker: Klemens Ilse (Fraunhofer CSP, Germany) <i>“Investigating challenges and solutions for desert PV application”</i>
15:05 – 15:10	Q/A
15:10 – 15:25	Bouchra Laarabi (Mohammed V University in Rabat, Morocco) <i>“Review on modeling and simulation of soiling effects on PV and CSP module performance”</i>
15:25 – 15:30	Q/A
15:30 – 15:45	Abdellatif Bouaichi (IRESEN, Morocco) <i>“Toward the development of a desert PV module by mitigation the aging mechanisms of PV modules in the Moroccan climate”</i>
15:45 – 15:50	Q/A
Break	
SESSION 12 (16:00 - 17:20)	PV MODULE PERFORMANCE AND RELIABILITY Chair: <i>Assist Prof. Mete Çubukçu</i> (Ege University, Turkey)
16:00 – 16:15	Beyza Durusoy (Middle East Technical University, Turkey) <i>“Technical potential of residential rooftop solar photovoltaic for Ankara: A preliminary study”</i>
16:15 – 16:20	Q/A
16:20 – 16:35	Nahide Özben Kaya (Şişecam, Turkey) <i>“Potential utilization of thin patterned glasses in photovoltaic systems through chemical tempering”</i>
16:35 – 16:40	Q/A
16:40 – 16:55	Fatemeh Mostofi (Karadeniz Technical University, Turkey) <i>“Structural performance of an existing building roof subjected to additional PV panel load”</i>
16:55 – 17:00	Q/A
17:00 – 17:15	Doğa Tolgay (Middle East Technical University, Turkey) <i>“Assessment of photovoltaic module temperature estimation for four years in Ankara with four different software”</i>
17:15 – 17:20	Q/A
Break	
SESSION 13 (18:00 - 18:40)	POWER ELECTRONICS IN PV SYSTEMS Chair: <i>Prof. Engin Özdemir</i> (Kocaeli University, Turkey)
18:00 – 18:15	Mustafa Hasan (Muğla Sıtkı Koçman University, Turkey) <i>“A new implementing approach for tracking algorithm on photovoltaic systems”</i>
18:15 – 18:20	Q/A
18:20 – 18:35	Kamil Okay (Hacettepe University, Turkey) <i>“Development of prototype battery management system for PV system”</i>
18:35 – 18:40	Q/A
PVCon2020 Closing Remarks: Raşit Turan & Bülent G. Akınoğlu (PVCon2020 Chairs, METU-GÜNAM, Turkey)	