# International Conference on Renewable Energy Systems (ICRES) with focus on Solar Technologies















UNDER THE AUSPICES OF:







## **CONFERENCE PROGRAM**

# International Conference on Renewable Energy Systems 2025

with focus on Solar Technologies

Thessaloniki, Greece, 09 - 11 April 2025

Co - Organized by



Institute of Solar Technolgy



Centre for Research and Technology Hellas



A Greek - Turkish Solar Energy excellence Hub to Advance the European Green Deal

#### Under the auspices of the

School of Civil Engineering School and School of Mechanical Engineering, Aristotle University of Thessaloniki, Greece





The Institute of Solar Technology (IST), a scientific organization based in Thessaloniki, recognizing in time the important role of Renewable Energy Sources (RES) and the Rational Use of Energy in the energy balance of Greece, organized in 1982 the "1st National Conference on Renewable Energy Sources", with the aim of providing researchers active in RES, a platform for a fruitful exchange of views and ideas and for supporting cooperation perspectives at national and international level. This initiative was met with enthusiastic support from the outset. Over the past 43 years, the Institute has built a legacy of hosting thirteen successful national events while fostering numerous fruitful collaborations within the scope of its broad thematic focus on the Greek region.

The Centre for Research and Technology Hellas was founded in March 2000, it is a legal entity governed by private law with non-profit status, supervised by the General Secretariat for Research and Innovation (GSRI) of the Greek Ministry of Development. CERTH suggests one of the most important Research Centers in Greece with a main mission: The promotion of innovative research for the benefit of society. Dedicated to this purpose, CERTH lies at the forefront of basic, applied and technological research to provide solutions to society's modern challenges. Clean energy, low/zero CO<sub>2</sub> emission technologies, clean vehicle technologies, green hydrogen, climate change, artificial intelligence, advanced robotic systems, the internet of things, Industry 4.0, smart home infrastructure for the future, precision medicine, holistic health nutrition, holistic health- nutrition approach, autonomous vehicles, driving simulators, traffic control hubs, smart cities, precision agriculture, agro-robotics and circular economy, are the primal fields around which CERTH's five (5) institutes are organized.

**SolarHub** is a perfect blend of Quadruple Helix collaboration in practice to create an Excellence Hub. Through linking academia, businesses, governments, and civil societies, SolarHub a four-year project with 21 partners from Greece, Türkiye, Germany, Ireland and Belgium. It is funded under the Horizon Europe WIDERA Excellence Hub program. The SolarHub consortium came to effect in January 2023 aiming to interconnect and scale-up five solar energy innovation ecosystems located in Ankara, Thessaloniki, İzmir, Athens and İstanbul standing by a mantra of accelerating the Clean Energy Transition and the Green Deal initiative.

IST, CERTH and SolarHub are proud to announce the

### **International Conference on Renewable Energy Systems**

with focus on Solar Technologies

under the auspices of the

School of Civil Engineering and the School of Mechanical Engineering of the Aristotle University of Thessaloniki

on 09-11 April 2025 in Thessaloniki, GREECE

#### The conference covers the following key themes

- Solar Thermal Power and Heat
- Innovative components & systems for low temperature (≤ 120°C) solar heat
- Medium and high temperature (solar) thermochemical processes & components
- Innovative Applications of PV technologies
- Innovative components & systems for agrivoltaics
- Solar Heating and Cooling components and systems
- Hybrid PV/solar thermal
- Renewable Energy Technologies and their applications

#### There will be parallel sessions dedicated to specific subjects:

- Energy Communities: Current status, challenges and perspectives
- Round table discussions on Solar Technology Systems policies
- Widening Impacts A Pioneering Widening community

#### **INFORMATION ON THE PRESENTATIONS**

The allotted time for each presentation is between 10 to 15 minutes, with 5 minutes dedicated to questions. All oral presentations will be presented in English in a PowerPoint format.

#### **IMPORTANT DATES**

Submission of Full Paper	31-05-2025
Early Registration	Until 21-03-2025
Registration	Until 07-04-2025

#### **PROCEEDINGS**

Selected papers from the ICRES 2025 Proceedings will be published after review as a Special Issue in the Journal

## Green Energy and Sustainability

www.pivotscipub.com/ges

The conference proceedings will be available online on IST's webpage and will include only the papers that are presented. Additionally, for a scientific paper to be included in the conference proceedings (published after the conference), at least one of its authors must be registered for the event. Finally, if a delegate presents more than one paper, they will be required to pay 50% of the participation fee for each additional paper beyond the first.

#### **REGISTRATION FEES**

The registration fees for the conference are as follows:

Participants and Authors (before 21/03/2025)	150€
Participants and Authors (after 21/03/2025)	200€
MSc and PhD students (non-authors)	50€
Undergraduate students (non-authors)	Free

Please kindly note that on-site registration will not be possible. All participants must register through the online registration form.

#### **VENUE**

The Conference is being held in Thessaloniki, at the Center for Dissemination of Research Results (K.D.E.A) of the Aristotle University of Thessaloniki, which is located on Leoforos 3<sup>rd</sup> of September Street in the Campus between the Student Club and the University Gymnasium.



Information can be found at: http://kedea.rc.auth.gr/

#### **ORGANIZING COMMITTEE**

#### **Conference Chair:**

Research Director **George Karagiannakis** - (CERTH, SolarHub)

Dr. Georgia Kastrinaki - (CERTH, SolarHub)

Dr. Elli Kyriaki - (AUTH, IST)

Dr. **Souzana Lorentzou** - (CERTH, SolarHub)

Assoc. Prof. Georgios Martinopoulos - (Merchant Marine Academy of Macedonia, IST)

Prof. Dimitrios Misirlis - (International Hellenic University, IST)

Dr Eleni Papaioannou - (CERTH, SolarHub)

Prof. **Onur Taylan** - (METU, ODTÜ - GÜNAM, SolarHub)

Dr Vassiliki Drosou - (CRES, SolarHub)

Prof. Hande Eryılmaz - (ODTÜ - GÜNAM, SolarHub)

#### **SCIENTIFIC COMMITTEE**

#### Scientific Committee Chair:

Assoc. Prof. Georgios Martinopoulos - (Merchant Marine Academy of Macedonia, IST)

Prof. Tuğçe Yüksel Bediz - (Sabancı University, SolarHub)

Dr. Vassiliki Drosou - (CRES, SolarHub)

Prof. Hande Eryilmaz - (ODTÜ-GÜNAM, SolarHub)

Assoc. Prof. Efrosyni Giama - (AUTH, IST)

Prof. **Neslihan Colak Güneş** (Ege University, SolarHub)

Research Director George Karagiannakis - (CERTH, SolarHub)

Dr. Georgia Kastrinaki - (CERTH, SolarHub)

Dr. Elli Kyriaki - (AUTH, IST)

Dr. Souzana Lorentzou - (CERTH, SolarHub)

Prof. Dimitrios Misirlis - (International Hellenic University, IST)

Prof. **Tuba Okutucu Özyurt** - (ITU, SolarHub)

Dr. Nikolaos Tsongidis - (CERTH, SolarHub)

Assoc. Prof. Georgios Panaras - (UOWM, IST)

Prof. Agis Papadopoulos - (AUTH, IST)

Chara Poravou - (CERTH, SolarHub)

Prof. Onur Taylan - (METU, ICHMT)

Prof. Theodoros Theodosiou - (AUTH, IST)

Prof. Aikaterini Tsikaloudaki (AUTH, IST)

#### **SECRETARIAT**

#### Mrs Adamandia Zeziou

ARTEMIS Laboratory/Chemical Process and Energy Resources Institute/ Centre for Research and Technology Hellas (CERTH)

Phone: +30 2311257928

Conference Email: lcres2025@certh.gr

Information about the Conference is posted on the conference website <a href="https://horizonsolarhub.eu/en/5012-icres-2025">https://horizonsolarhub.eu/en/5012-icres-2025</a> and on the IST website: <a href="http://solarinstitute.gr/">http://solarinstitute.gr/</a>.

#### **CONTACT US**

#### **Institute of Solar Technologies**

AUTh Campus, POB 487, EL 541 24 Thessaloniki, Greece

Phone: +30 2310996087 E-mail: info@solarinstitute.gr

CONFERENCE PROGRAM					
Wednesday 9th of April					
12.00-13.00	-	Registration			
		Room 1			
10.00.10.00		Opening Session			
13.00-13.30	Chair: Kastrinaki - Martinopoulos - Eryılmaz				
		Plenary Session 1			
13.30-14.30	Cha	air: Kastrinaki - Martinopoulos - Eryıl	ma <sub>7</sub>		
14.30-15.00	S.I.C	Coffee break			
	Room 1	Room 2	Room 3		
	Session 1_1	Socion 2 1	Session 3_1		
15.00-16.00	Potential Assessment (I)	Session 2_1 Solar Heat and Power	Innovative Applications of PV		
15.00-16.00	Chair: Christodoulaki - Poravou		Chair: Tsongidis - Kastrinaki		
	Chair. Christodoutaki - Poravou	Chair: Panaras - Kyriaki	Chair. Isoligidis - Kastililaki		
16.00- 17.00	Excellence Hubs Presentation				
Thursday 10th of April					
	Thursday 10th of April  Room 1				
		Plenary Session 2			
9:00-10:00		Chair: Papaioannou - Tsongidis			
10:00-10:30		Coffee break			
	Room 1	Room 2	Room 3		
	Coorier 1 2				
	Session 1_3  Medium and high temperature	Session 2_3	Session 3_3		
10.30-13.00	(solar) thermochemical processes &	Potential Assessment (II)	Renewable Energy Technologies (I)		
20100 20100	components	Chair: Giama - Kyriaki	Chair: Drosou - Eryılmaz		
	Chair:Papaioannou - Roeb	,	,		
13.00-14.30	Chair.r apaidaimidu - Noeb	Lunch Break			
10.00 1 1.00		Zanen Break			
	Session 1_4	Session 2_4	Session 3_4		
14.30-16.30	Solar Heating and Cooling –	Potential Assessment (III)	Innovative components & systems		
	components and systems	Chair: Derin-Gure - Tsongidis	for agrivoltaics		
	Chair: Martinopoulos - Misirlis		Chair: Panaras - Kastrinaki		
		Friday 11th of April			
		Room 1			
9:00-10:00		Plenary Session 3			
10.00.10.00		Chair: Kastrinaki - Kyriaki			
10:00-10:30	Decare 4	Coffee break	Dage 2		
	Room 1	Room 2	Room 3		
	Energy Communities Session				
10.00.44.00	Chair: Kitsikopoulos				
10.30-11.30	Dound Table on Frage.				
	Round Table on Energy				
11 20 12 20	Communities Chair: Kitsikopoulos				
11.30-12.30	Chair: Kitsikopoulos				
	Session 1_6	Session 2_6	Session 3_6		
12.30-14.30	Solar Materials and Storage	Hydrogen and Solar Materials	Renewable Energy technologies (II)		
	Chair: Martinopoulos - Kyriaki	Chair: Vlachostergios - Lorentzou	Chair: Misirlis - Papaioannou		
14.30-15.00	Closing Round Table				
14.50-15.00	Closing Round Lable				

#### Wednesday 9th April 2025

12:00-13:00 Registration

13:00-13:30 Welcoming

13:30-14:30 Plenary Session 1

Room 1

EUROPEAN RESEARCH INFRASTRUCTURE CONSORTIUM (ERIC) 'EU-SOLARIS' AND THE PROTEAS FACILITY

Marios Georgiou

The Cyprus Institute, Nicosia, Cyprus

**14:30-15:00** Coffee Break

#### 15:00-16:00 Potential Assessment (I)

Room 1

- 15:00 TOWARDS AN END-TO-END DATA DRIVEN FRAMEWORK TO EMPOWER ENERGY COMMUNITIES A. Tsitsanis, G. Papadopoulos, K. Tsatsakis
- OPTIMAL SIZING OF HOUSEHOLD PV SHARES AND DEMAND RESPONSE STRATEGIES UNDER THE NEW VIRTUAL NET-BILLING LAW FOR ENERGY COMMUNITIES

  1. Chatzigeorgiou, D. Kitsikopoulos, I. Xenaki, G.T. Andreou
- 15:40 HEATING & COOLING IN THE ERA OF ELECTRIFICATION: A COMPARATIVE ANALYSIS OF NECPS R. Christodoulaki, V. Drosou, F. Gerard, J. Fernandez, A. Papadopoulos

15:00-16:00 Solar Heat and Power

Room 2

- 15:00 "ARCHIMEDES" A CONCENTRATING SOLAR RESEARCH INFRASTRUCTURE FOR SUSTAINABLE ENERGY PRODUCTION
  - E. Papanicolaou
- 15:20 LATEST UPDATE ON SOLAR THERMAL TECHNOLOGY EUROPEAN STANDARDIZATION AND CERTIFICATION ISSUES

V. Drosou, R. Christodoulaki

15:40 SYNTHESIS AND CHARACTERIZATION OF BORON CARBON OXYNITRIDE (BCNO) NANOCOMPOSITE MATERIAL AS NOVEL LUMINESCENT SOLAR CONCENTRATOR FOR GREENHOUSE APPLICATIONS E. Pitsika, G. Salahas, E. Stathatos

#### 15:00-16:00 Innovative Applications of PV technologies

Room 3

- 15:00 TECHNO-ECONOMIC EVALUATION OF CONCENTRATED SOLAR POWERED DESALINATION PLANTS IN GREEK ISLANDS
  - A. Theodorakopoulos, K. Kavadias
- 15:20 EXPERIMENTAL INVESTIGATION OF PARTIAL SHADING EFFECT ON PV PANELS K. Kavadias, G. Tagkalis, K. Christopoulos, E. Sakellariou
- 15:40 DESIGN AND PERFORMANCE INVESTIGATION OF A SOLAR PHOTOVOLTAIC INSTALLATION ON A UNIVERSITY BUILDING

E. Vidalis, E. Bellos, C. Sammoutos, A. Kitsopoulou, P. Lykas, D.N. Korres, D. Gonidaki, C. Tzivanidis

16:00-17:00 Excellence Hubs Presentation

Room 1

Thursday 10th April 2025

09:00-10:00 Plenary Session 2

Room 1

#### FUELS AND CHEMICALS VIA THERMAL PROCESSES FROM SOLAR RESOURCES

Martin Roeb

Institute of Future Fuels - German Aerospace Centre (DLR), Germany

10:00-10:30 Coffee Break

#### 10:30-13:00 Medium and high temperature (solar) thermochemical processes & components

Room 1

10:30 HIGH-TEMPERATURE THERMOCHEMICAL HEAT STORAGE FOR CSP WITH MN- AND FE-BASED PEROVSKITE METAL OXIDES

M. Pein, R. dos Santos Santana, D. Vellas, D. Koch, E. Dashjav, C. Agrafiotis, M. Roeb

10:50 DEVELOPMENT OF RETICULATED POROUS PEROVSKITE STRUCTURES AS EFFECTIVE MEANS FOR HIGH-TEMPERATURE THERMOCHEMICAL SOLAR ENERGY STORAGE

D. Vellas, A.Eltayeb, E. Dashjav, M. Pein, C. Agrafiotis, M. Roeb

11:10 INVESTIGATION OF THE HEAT TRANSFER COEFFICIENT CORRELATIONS OF A STRUCTURED MONOLITH AS SOLAR RECEIVER WITH COMPUTATIONAL AND LAB DATA

A. Melhim, K.E. Kakosimos, A.G. Konstandopoulos

11:30 INVESTIGATION OF A LATENT-HEAT STORAGE TANK WITH ENCAPSULATED ERYTHRITOL FOR CONCENTRATING SOLAR SYSTEMS

N.Papadimitriou, E. Papanicolaou, V. Belessiotis

11:50 CONCENTRATING SOLAR TECHNOLOGIES INTEGRATION INTO THERMOCHEMICAL PROCESSES: INDICATIVE EXAMPLES

N. I. Tsongidis, C.Poravou, C. Lekkos, G. Kastrinaki, G. Karagiannakis

12:10 CHARACTERIZATION AND REACTIVITY OF MIXED COPPER-VANADIUM OXIDE CATALYSTS FOR THE SO<sub>3</sub> SPLITTING REACTION

L. Kollias, I. Baltanidis, T. Kentri, G. Skyfta, A. Bakratsa, V. Zacharopoulou, N. Tsongidis, G. Karagiannakis, S. Boghosian

#### 10:30-13:00 Potential Assessment (II)

Room :

10:30 A FUZZY MANAGEMENT SYSTEM FOR THE ELECTRIC VEHICLE CHARGING SCHEDULING IN A MICROGRID WITH PHOTOVOLTAIC STATIONS

V. Arapostathis, C. Karavas, A. T. Balafoutis, G. Papadakis

10:50 SIMULATION OF HEAT TRANSFER IN A LARGE-SCALE FLAT PLATE COLLECTOR

Y. Karakaş, T.Özyurt, R. Christodoulaki, H.Michalopoulos, S.Karabetoğlu, V.Drosou

11:10 TOWARDS CARBON NEUTRALITY OF THE MARITIME SECTOR: FEASIBILITY STUDY FOR THE INTEGRATION OF PV SYSTEM ON-BOARD AT A VLCC TANKER

E. Giama, M. Gougousiadis, A. Zafet, G. Pontikakos, S. Mamalis, G. Skevis

11:30 A DIGITAL TWIN MODEL FOR THE MONITORING OF A SOLAR THERMAL SYSTEM: DEVELOPMENT AND ANALYSIS

C. Kyriakou, T. Klitou, N. Afxentiou, P.Fokaides

11:50 MACHINE LEARNING BASED SOLAR PANEL POWER GENERATION FORECASTING LEVERAGING WEATHER DATA

I.R. Dimitriadis, G. Gravanis, S. Papadopoulou, K. Diamantaras

#### 10:30-13:00 Renewable Energy Technologies (I)

Room 3

10:30 REVIEW OF RESEARCH AND COMMERCIAL SOLAR CONCENTRATED SYSTEMS FOR PROCESS HEAT WITH THERMAL ENERGY STORAGE IN GREECE AND CYPRUS

S. Alexopoulos, Z. Mahdi., J. C. Sattler, D. Krüger

10:50 OPTIMUM SOLAR ENERGY SOLUTION FOR REMOTE ISLANDS M.P. Bratitsis., J.K. Kaldellis.

11:10 CIRCULARITY AND LIFE CYCLE ASSESSMENT IN SOLAR TECHNOLOGIES AND RENEWABLE ENERGY SYSTEMS

M. Rajić, M. Mančić, M. Mančić, P. Milosavljević

11:30 A LOW-COST, HIGH-PRECISION PHOTOVOLTAIC ARRAY EMULATOR FOR TESTING AND EDUCATIONAL PURPOSES

E. Rikos, A. Schmid, V. Drosou

- 11:50 DEVELOPMENT OF MACHINE LEARNING TECHNIQUES FOR SOLAR THERMAL SYSTEM DESIGN M. Sourgoutsidis, L. Zouloumis, V. Kilis, N. Ploskas, G. Panaras
- 12:10 ESTIMATING THE REAL CONTRIBUTION OF PHOTOVOLTAICS ON COVERING THE GREEK MAINLAND LOAD DEMAND

J.K Kaldellis., M.P Bratitsis., St. Miliarakis, K. Christopoulos

12:30 CRITICAL EVALUATION OF MACEDONIA HYDROPOWER PLANTS LONG-TERM PERFORMANCE. FUTURE PROSPECTS & CHALLENGES

J.K. Kaldellis., A. Theodorou., G.Tzanes, D. Zafirakis.

#### 13:00-14:30 Lunch Break

**PRODUCTION** 

#### 14:30-16:30 Solar Heating and Cooling — components and systems

Room 1

- 14:30 DESIGN AND OPERATION EVALUATION OF A COOLING CHAMBER SUPPORTED WITH A GROUND SOURCE HEAT PUMP SYSTEM IN THE REGION OF CENTRAL MACEDONIA V. Firfiris, P. Kolios, A. Lithourgidis, A. Tsitsimpikou, T. Kotsopoulos
- 14:50 DESIGN OF CENTRAL COOLING CHAMBER UNITS SUPPORTED WITH GROUND SOURCE HEAT PUMPS IN THE REGION OF CENTRAL MACEDONIA FOR COVERING THE NEEDS OF LOCAL AGRICULTURE

V. Firfiris, P. Kolios, C. Tzenos, S. Kalamaras, T. Kotsopoulos

- 15:10 LEVERAGING TRNSYS SIMULATIONS OF TWO BUILDINGS IN DIVERSE CLIMATES FOR RENEWABLE ENERGY INTEGRATION
  - G.Dogkas, A. Tsimpoukis, M.P. Cammañ, J.S. Muñoz, J.C. del Castillo García, O. Gustafsson, G. Itskos, N. Nikolopoulos
- 15:30 THERMAL PERFORMANCE ASSESSMENT OF A DOMESTIC HOT WATER STORAGE WITH PCM M. S. Büker, V. C. Güran, H. I. Dağ
- 15:50 EFFICIENCY EVALUATION OF A COMBINED HEATING AND COOLING ENERGY PRODUCTION UNIT, UTILIZING R717 AND PCM STORAGE IN A SMALL SCALE THERMAL GRID: A CASE STUDY A. Papavasileiou, P.N. Botsaris, G. Meramveliotakis, P. Bakalis, A. Gkountas
- 16:10 OPTIMIZING THE PERFORMANCE OF A NOVEL COMPACT INTEGRATED THERMAL STORAGE SYSTEM (MINISTOR) UNDER DIVERSE CLIMATE CONDITIONS

A. Tsimpoukis, G. Martinopoulos, N. Nikolopoulos

#### 14:30-16:30 Potential Assessment (III)

Room 2

- 14:30 COMMUNITY ENERGY FLEXIBILITY THROUGH SOLAR SELF-CONSUMPTION: A CRITICAL ASSESSMENT D. Kitsikopoulos, I. Chatzigeorgiou, G. Gritzas
- 14:50 CLOUD CLASSIFICATION AND SOLAR IRRADIANCE FORECASTING USING ALL SKY IMAGES G. Behrens, N. El Atmioui, Y. Ribouh, A. Kruse
- 15:10 PARTNER-DRIVEN SOLUTIONS FOR ENHANCING A SOLAR ENERGY INNOVATION ECOSYSTEM: THE ANKARA CASE

T. Hiz, P. D. Güre, A. E. Aydin

15:30 FINANCIAL INSTRUMENTS IMPLEMENTED IN GREECE FOR THE PROMOTION OF RENEWABLE SOURCES OF ENERGY

C. Kiskini, K. Kissa, M. Schoina, A. Averopoulou, E. Stergiou

15:50 DYNAMIC TARIFFS AND INCENTIVE SCHEMES FOR ENERGY COMMUNITIES WITH NET-BILLING A. Papakonstantinou, E. Katsikis, D. Chatziqiannis, M. Paraschi, Z. Mylona, C. Baslis

#### 14:30-16:30 Innovative components & systems for agrivoltaics

Room 3

14:30 APPLICATION OF PHOTOVOLTAICS IN FRUIT PROCESING INDUSTRY

M. Mančić, M. Đorđević, M. Rajić, M. Mančić, L. Pantić

- 14:50 AGRI-PV: Technology Solutions for Green and Sunstainable Agriculture S. Bousios, N. Kanopoulos, S. Theodoulidis
- 15:10 AN IOT-BASED SMART SCADA SYSTEM FOR USE IN AGRI-PV APPLICATIONS E. Rikos, D. Kuzyaka, V. Drosou
- 15:30 AGRIPV MEETS BIOGAS AND ELECTRIFICATION: A SCENARIO-BASED OPTIMIZATION TO DECARBONIZE INDUSTRIAL ENERGY LOADS

D Makris., C. Vlachokostas, A. Papadopoulos, S. Alexopoulos , J. Schruefer, D. Hoegemann

Friday 11th April 2025

09:00-10:00 Plenary Session 3

Room 1

# BEYOND TECHNOLOGY: THE SOCIOECONOMIC DIMENSIONS OF SOLAR ENERGY AND THE ROLE OF SOCIAL SCIENCES IN INNOVATION

Assoc. Prof. Dr. Pinar Derin-Güre

Middle East Technical University, Department Economics, Ankara, Turkiye

10:00-10:30 Coffee Break

10:30-11:30Energy Communities SessionRoom 111:30-12:30Round Table on Energy CommunitiesRoom 112:30-14:00Solar Materials and StorageRoom 1

- 12:30 GROWTH AND OPTIMISATION OF TRANSPARENT CONDUCTING OXIDES FOR ENERGY APPLICATIONS
  A. Zhussupbekova, K. Fleischer, I. V. Shvets
- 12:50 EFFECTS OF VOID RATIO AND CHANNEL COUNT ON THE PERFORMANCE OF A PACKED BED THERMAL ENERGY STORAGE SYSTEM UTILIZING RECYCLED CERAMIC BLOCKS THROUGH NUMERICAL SIMULATIONS

B. Ülkütaşır, A. Ülger, D. Değirmenci, M. Köksal, O. Taylan

- 13:10 EFFECTS OF OPERATING TEMPERATURE ON THERMOCLINE FORMATION IN AXIAL AND HELICAL FLOW PACKED-BED THERMAL ENERGY STORAGE SYSTEMS THROUGH COMPUTATIONAL MODELING D. Değirmenci, B. Ülkütaşır, O. Taylan
- 13:30 OPTICAL ANALYSIS OF A BEAM-DOWN LINEAR FRESNEL REFLECTOR COUPLED WITH A FLAT PLATE RECEIVER

C. Sammoutos, E. Bellos, A. Kitsopoulou, P. Lykas, E. Vidalis, D. Gonidaki, D.N. Korres, C. Tzivanidis

#### 12:30-14:00 Hydrogen and Solar Materials

Room 2

- 12:30 HYDROSOL-beyond SOLAR HYDROGEN PRODUCTION ON STRUCTURED REACTORS
  S. Lorentzou, C. Pagkoura, G. Karagiannakis, T. Fend, A. Vidal Delgado, A. Gonzales, T. Denk, M.Beerstra, S. Giannela, L. Ferrari, A. Ortona, M. Barbato, R. Puragliesi, L. Cornolti, V. Lacroix, J. Cren, A. Cassado
- 12:50 LIQUID HYDROGEN FUEL SYSTEM DESIGN FOR SUSTAINABLE AVIATION APPLICATIONS V. Karaiskos, K. Fotis, Z. Vlahostergios, D. Misirlis, K. Yakinthos
- 13:10 CHARGE LOCALIZATION IN NOVEL PHOTOCATALYST MATERIALS: EFFECTS ON THE WATER-SPLITTING REACTION

F. Ambrosio

13:30 GREECE'S FIRST ONSITE HYDROGEN REFUELLING STATION: A KPI-BASED PERFORMANCE EVALUATION IN LIFE GREENH2ORN PROJECT

K. Letsios, N. Charisiou, N. Ntavos, E. Papista, M. Goula, S. Douvartzides

#### 12:30-14:00 Renewable Energy technologies (II)

Room 3

- 12:30 UPCYCLING OF PYROLYSIS OIL FROM WASTE PLASTICS INTO NAPHTHA AND LUBRICANTS F. Al, A.C. Aydogdu, B. Erkmen, A. Suerkan, A. Alparslan, A. Ezdesir, G. Celik
- 12:50 PRELIMINARY ANALYSIS OF COMPONENTS COST DISTRIBUTION FOR A LOW ENTHALPY GEOTHERMAL POWER PLANT

A. I.Karypidis, D.Misirlis, C. Papapostolou, K. Kleidis

13:10 SYNTHESIS OF ZERO EMISSION NEXT GENERATION FUELS: THE EXAMPLE OF SOLAR-ASSISTED HYDROTHERMAL LIQUEFACTION

C. Poravou, N. Christodoulou, N. I. Tsongidis, G. Karagiannakis

13:30 CHALLENGES FOR THE INTEGRATION OF PHOTOVOLTAICS IN ROAD VEHICLES Ahu Ece Hartavi Karci, D. Margaritis, S. Yerci, E.Kinav

#### 14:00-15:00 Closing Ceremony Round Table

Room 1