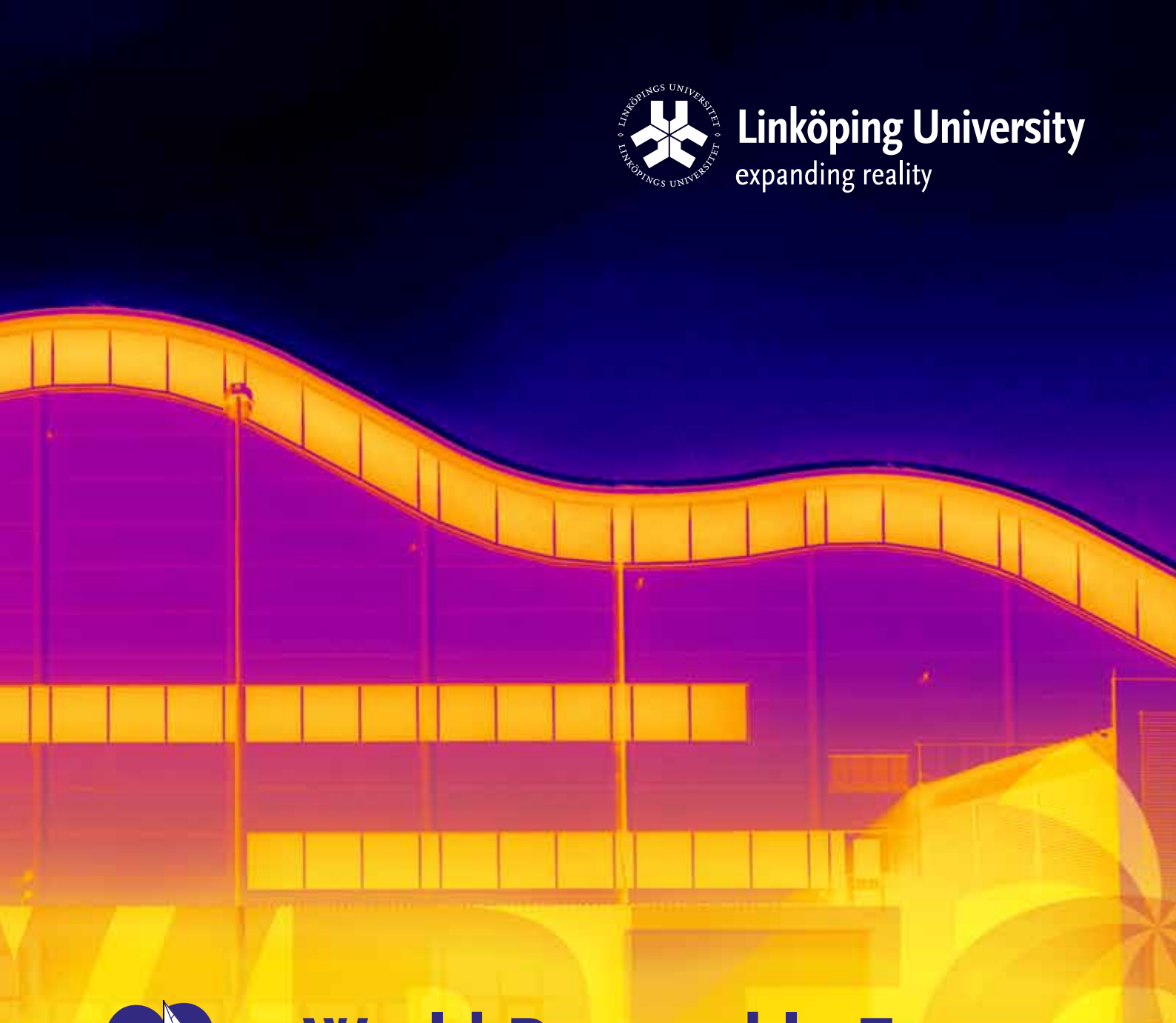

Linköping University
expanding reality

World Renewable Energy Congress 2011 – Sweden

LINKÖPING 8–13 MAY 2011

www.wrec2011.com

Contents

Organization and committees

Organizer

Linköping University

Supporting organization

World Renewable Energy Congress/Network (WREC/WREN)

Committees

CHAIRPERSON

Prof. Bahram Moshfegh
Linköping University, Sweden

CO-CHAIRPERSON

Prof. Ali Sayigh
WREN, UK

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Prof. Lena Neij	Sweden
Prof. Lars J. Nilsson	Sweden
Prof. Jan-Eric Sundgren	Sweden
Prof. Bo Svensson	Sweden
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Mr Anders Wijkman	Sweden
Dr Arthur A. Williams	UK
Prof. Ewa Wäckelgård	Sweden

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Mr Klas Svensson	Linköping University
Prof. Mats Söderström	Linköping University
Dr Patrik Thollander	Linköping University
Dr Louise Trygg	Linköping University
Ms Elisabeth Wetterlund	Linköping University

Welcome

It is my great pleasure to welcome you all to the World Renewable Energy Congress 2011 – Sweden (WREC 2011), which is organized by Linköping University in Linköping, Sweden during May 8–13, 2011.

The biggest challenge that mankind has ever faced is to find opportunities to create a modern, convenient life when facing the escalating threat of global warming and prospective resource depletion. These challenges and opportunities will have significant impacts on our future economy and welfare. It is vital to focus on renewable energy sources in combination with more efficient use of energy and this must be addressed in all future energy-related strategic decisions. Knowledge of decision-making, economics, organization, rules and regulations, policy issues, political processes, and human actions and reactions is also crucial in energy-related issues in order to control these developments with the necessary conservation of energy resources and the environment and without significant impacts on the quality of life.

WREC 2011 focuses on future challenges and opportunities for renewable energy technology and sustainable energy systems, as well as climate change issues. Based on the theme "Future Trends and Applications in Renewable Energy Technologies and Sustainable Development", WREC 2011 covers a wide range of topics related to renewable energy technology, energy efficiency, climate change and sustainable energy systems. Major topics and new trends are introduced through keynote lectures, presented by internationally recognized experts. WREC 2011 provides an opportunity for scientists, engineers, technology developers, practitioners, policy makers and government officials to showcase leading-edge technology for future sustainable societies. With over 600 scientific papers, representing more than 70 countries, accepted WREC 2011 can rightfully be said to be a truly international event.

My gratitude goes to all who have helped organize WREC 2011, including the many contributors. Special thanks go to all the experts who have helped with the review process, as well as to all topic chairpersons and keynote speakers, for your devoted work in helping organizing this event. I would also like to express my warm gratitude to the members of the WREC 2011 Committees, without whom this conference would not be possible. On behalf of the Organizing Committee I would also like to thank our partners and sponsors for their generous financial support.

Professor *Bahram Moshfegh*
Chairman of the World Renewable Energy Congress 2011 – Sweden
Linköping University

Overall program

Day	Scientific program	Time	Social program	Evening program
Sunday 8 May	Arrivals Registration	14.00 – 20.00		Welcome reception 18.00 – 20.00
Monday 9 May	Registration Opening ceremony Keynote lectures 1 EU Workshop Parallel sessions A Parallel sessions B	08.00 – 18.00 09.15 – 11.45 13.15 – 14.00 14.10 – 15.50 14.10 – 15.50 16.10 – 18.10	Guided city tour 14.00 – 16.00	
Tuesday 10 May	Registration Parallel keynote lectures 2 Parallel sessions C Parallel sessions D Parallel keynote lectures 3 Parallel sessions E Parallel sessions F	08.00 – 18.00 08.30 – 09.10 09.20 – 10.20 10.40 – 12.00 13.15 – 14.00 14.10 – 15.30 15.50 – 18.10	Guided tour of Old Linköping 09.00 – 12.00	
Wednesday 11 May	Registration Parallel keynote lectures 4 Parallel sessions G Parallel sessions H Professional excursion tours Cross Border Bioenergy Workshop	08.00 – 13.00 08.30 – 09.10 09.20 – 10.20 10.40 – 11.40 13.00 – 17.30 13.00 – 16.00	Boat trip on Kinda Canal 10.00 – 14.00	Congress Banquet 19.00–
Thursday 12 May	Registration Parallel keynote lectures 5 Parallel sessions I Parallel sessions J Parallel keynote lectures 6 Parallel sessions K Parallel sessions L	08.00 – 18.00 08.30 – 09.10 09.20 – 10.20 10.40 – 12.00 13.15 – 14.00 14.10 – 15.30 15.50 – 18.10	Air Force Museum 10.00 – 13.00 Bus tour Omberg, Vadstena 09.00 – 16.30	
Friday 13 May	Registration Parallel keynote lectures 7 Parallel sessions M Parallel sessions N Closing ceremony	08.00 – 10.00 08.30 – 09.10 09.20 – 10.20 10.40 – 12.20 13.30 – 15.00		

Opening ceremony

Opening notes by among others:

- Prof. Bahram Moshfegh, Chairman of WREC 2011
- Karin Fälth-Magnusson, acting rector of Linköping University
- Lena Ek, Member of the European Parliament
- Daniel Johansson, State Secretary to the Minister for Enterprise and Energy
- Hans van Steen, Head of Unit, Directorate-General for Energy, European Commission
- Elisabeth Nilsson, Governor of Östergötland County
- Prof. Ali Sayigh, Chairman of WREC and Director General of WREC

Her Royal Highness Crown Princess Victoria of Sweden will attend the opening ceremony.

Closing ceremony

During the closing ceremony short summaries of the lectures and presentations given within the fifteen WREC 2011 topics are presented. Closing notes by among others Prof. Bahram Moshfegh, Chairman of WREC 2011, are also given.

General information

Congress venue

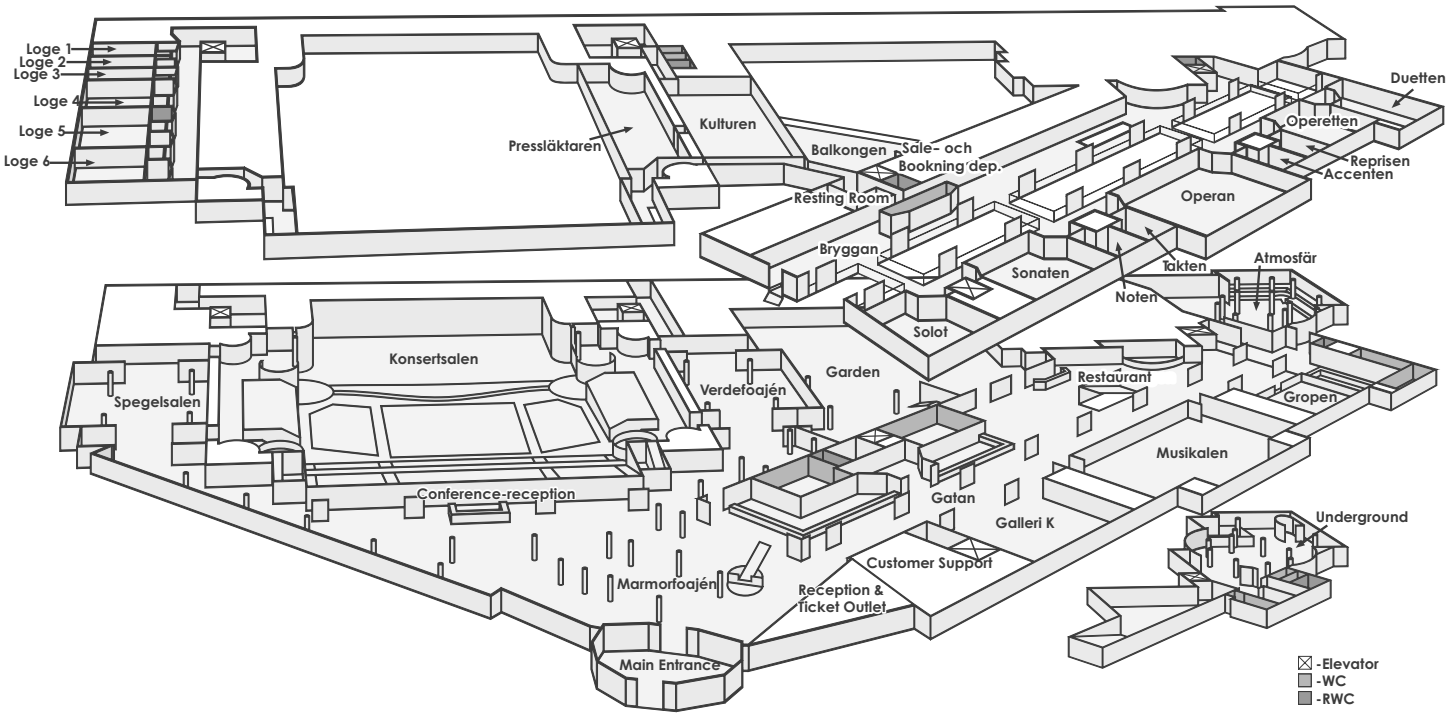
WREC 2011 – Sweden takes place at Linköping Konsert & Kongress.

Address and contact information:

Konsert & Kongress
Konsistoriegatan 7
SE-582 22 Linköping
Sweden

Linköping Konsert & Kongress
Tel: +46 13 190 00 00
Fax: +46 13 190 00 90
E-mail: info@arenabolaget.se
www.arenabolaget.se

Congress layout



Phone numbers

HOTELS

Scandic Frimurarehotellet	+46 13 495 30 00
Scandic Linkoping City	+46 13 495 54 00
Scandic Linkoping West	+46 13 495 50 00
First Hotel Linkoping	+46 13 13 02 00
Quality Hotel Ekoxen	+46 13 25 26 00
Radisson Blu Hotel	+46 13 12 96 30
Best Western Hotel Linkoping	+46 13 12 90 00
Linkoping City Hotel	+46 13 35 90 00
Hotel Du Nord	+46 13 12 98 95
Stanga Hotel	+46 13 311275
Valla Folk High School	+46 13 35 55 80

HEALTH CARE

University Hospital	+46 13 22 20 00
SOS Emergency	112
Health care information	1177

TAXI

Taxi	+46 13 14 60 00

CONGRESS VENUE

Congress Secreteriat (during 8–13 May)	+46 13 35 66 90
Konsert & Kongress	+46 13 190 00 00

Scientific program

Congress structure

The scientific program includes keynote lectures and parallel lecture sessions. In addition to this, two workshops are given during WREC 2011 – an EU Workshop on renewable energy and a workshop on biofuels by Cross Border Bioenergy and Svebio. Professional excursions tour to companies related to renewable energy and efficient energy systems are also organized.

Congress topics

WREC 2011 focuses on Future Trends and Applications in Renewable Energy Technologies and Sustainable Development, covering the following topics:

- Bioenergy Technology (BE)
- Climate Change Issues (CC)
- Energy End-Use Efficiency Issues (EEE)
- Fuel Cells (FC)
- Geothermal Applications (GA)
- Hydropower Applications (HP)
- Industrial Energy Efficiency (IEE)
- Low-Energy Architecture (LEA)
- Marine and Ocean Technology (MO)
- Policy Issues (PI)
- Photovoltaic Technology (PV)
- Sustainable Cities and Regions (SCR
- Sustainable Transport (ST)
- Solar Thermal Applications (STH)
- Wind Energy Applications (WE)

Keynote lectures

Sixteen keynote lectures are given by a number of international professionals, specifically invited for their expertise in the field of renewable energy. The keynote speeches are given as parallel lectures. Monday, Wednesday and Friday have keynote lecture sessions only in the morning, while Tuesday and Thursday have both morning and afternoon keynote lectures.

Parallel lecture sessions

Fourteen lecture sections (A–M) are scheduled over the five days of WREC 2011. During each of these sections, up to eleven parallel sessions within the different topics will take place. The sessions' lengths vary, with 3–7 presentations scheduled for each session. Each presenter is given 15 minutes of presentation time followed by 5 minutes for discussion with the audience.

Workshops

Two workshops are held during WREC 2011. The workshops are open for all Congress participants.

EU Workshop – "Implementing 20 % renewables – the EU story"

Time: Monday May 9, 14.10–15.50

The workshop contains a number of presentations, which are followed by a panel discussion, moderated by Mr Anders Wijkman, former MEP and expert at Linköping University.

Cross Border Bioenergy Workshop – "Expanding the Transport Biofuel Markets"

Time: Wednesday May 11, 13.00–16.00

This interactive workshop is dedicated to market development for small and medium scale companies within the biofuel sector, and contains both presentations and a panel discussion. The workshop is organized by Svebio and the EU project Cross Border Bioenergy.

Professional excursion tours

On Wednesday May 11, the delegates have the opportunity to partake in technical excursion tours, visiting a number of places of interest in the region:

- Tekniska Verken – waste incineration and biogas production
- Siemens – solar steam turbines
- Lambohov – passive houses
- Linköping University – energy efficiency

Social program

Linköping and its surrounding region offer the visitor a unique mix of culture, nature, education and world-class high-tech commerce. For persons accompanying attendants of WREC 2011 we offer a social tour program, giving the opportunity to experience a wide range of what the region has to offer.

Registration for the social program activities can be done at the Congress registration desk.

Guided city tour of Linköping

Guided tour in the city center where you will get to know about famous people in the city over the centuries, and of interesting buildings, their architects and builders. We talk about important historical episodes in a varied and educational way, often also richly and amusing.

Monday 9 May, 14.00–16.00
Price: 18 EUR per person.

Gamla Linköping – Old Linköping

Old Linköping is composed of about 90 buildings, all of which moved to Old Linköping from the city and vicinity of Linköping. Here you can see a number of interesting museums and several professional craftsmen. In the historic Old Town, you can experience a variety of "homes of Linköping" – some of which remain virtually untouched in the old home style, as if the people living there just went out temporarily!

Tuesday 10 May, 09.00–12.00
Price: 30 EUR per person.

Boat trip with MS/Kind on Kinda Canal

The M/S Kind is a boat that plies the Kinda Canal from the toll bridge and Stångs Magasin in Linköping. You will enjoy fantastic surroundings and a guide will tell you more on board. On board we serve Swedish "Smörgåsbord" of cold cuts, herring- and salmon dishes, meat dishes and vegetarian dishes. Hot dishes, including garden omelet, meatballs, sausages, vegetarian pies and roasted vegetables are also included.

Wednesday 11 May, 10.00–14.00
Price: 55 EUR per person. Lunch included.

Air Force Museum

The Swedish Air Force Museum is a technical and cultural history museum with exhibitions that trace the development of military aviation from the early 20th century to the present. The museum has a unique collection of aircraft from the pioneers of aviation to today's JAS 39 Gripen. Many of these can only be seen at the Swedish Air Force Museum.

Thursday 12 May, 10.00–13.00
Price: 30 EUR per person.

Bus excursion Omberg – Vadstena

Guided bus tour where we travel along the highway towards a truly unique place of culture, nature and history. We visit "The Rök Stone", one of Sweden's most interesting rune stones, Alvastra Abbey Ruins, Omberg, one of Sweden's most popular natural recreation areas, and the medieval town of Vadstena.

Thursday 12 May, 09.00–16.30
Price: 70 EUR per person. Coffee break and lunch included.

Evening program

Welcome reception

Sunday 8 May, 18.00–20.00

Price: Included in registration fee.

The Welcome reception will take place at Konsert & Kongress. Light refreshments will be served.

Congress banquet

Wednesday 11 May, 19.00–22.00

Price: 50 EUR (registration and payment can be done at the Congress registration desk)

The Congress banquet will be held at Konsert & Kongress. In addition to the Congress dinner, the banquet contains musical performance and dance.

Keynote lectures

Sixteen keynote lectures are given by a number of international professionals, specifically invited for their expertise in the field of renewable energy. The keynote speeches are given as parallel lectures.

The keynote lectures will be presented according to the following schedule. Two or three names in one time slot mean parallel lectures.

Keynote lecture overview

	Monday	Tuesday	Wednesday	Thursday	Friday
08.30 – 09.10		**Keynote lectures 2** Prof. A.P.C. Faaij (BE) Prof. L. Neij (PI) Prof. A.S. Bahaj (MO)	**Keynote lectures 4** Mr P. Laurell (SCR) Prof. E. Worrell (IEE) Mr M. Philipsson (BE)	**Keynote lectures 5** Prof. J. Kimman (SCR) Mr A. Lewald (BE) Dr S. Darby (EEE)	**Keynote lectures 7** Dr L. Kazmerski (PV) Prof. K. Blok (SCR)
13.15 – 14.00	**Keynote lectures 1** Prof. T.B. Johansson	**Keynote lectures 3** Prof. J. King (ST) Dr M. Atif (LEA)		**Keynote lectures 6** Prof. B. Norton (STH) Prof. B.-O. Linnér (CC)	

Keynote lectures 1, Monday 9 May, 13.15 – 14.00

1A

Global Energy Assessment

CHAIRPERSON: ALI SAYIGH

A New Global Energy Agenda for a Rapidly Changing World
Prof. Thomas B. Johansson
International Institute for Industrial Environmental Economics (IIIEE), Lund University, Sweden

Parallel keynote lectures 2, Tuesday 10 May, 08.30 – 09.10

2A

Bioenergy Technology

CHAIRPERSON: BO SVENSSON, LINKÖPING UNIVERSITY, SWEDEN

Bioenergy in a Sustainable Future; Results on Bioenergy in the IPCC-SRREN
Prof. André P.C. Faaij
The Copernicus Institute, Faculty of Science, Utrecht University, the Netherlands

2B

Policy Issues

CHAIRPERSON: THOMAS B. JOHANSSON, LUND UNIVERSITY, SWEDEN

Towards Sustainable Energy Policy
Prof. Lena Neij
International Institute for Industrial Environmental Economics (IIIEE), Lund University, Sweden

2C

Marine and Ocean Technology

CHAIRPERSON: ALI SAYIGH, WREC/WREN, UNITED KINGDOM

Energy from the Oceans: A New Era in Electricity Production?
Prof. AbuBakr S. Bahaj
Sustainable Energy Research Group, University of Southampton, UK

Parallel keynote lectures 3, Tuesday 10 May, 13.15 – 14.00

3A

Sustainable Transports

CHAIRPERSON: JAN-ERIC SUNDGREN, VOLVO AB, SWEDEN

Decarbonising Road Transport – the UK's Approach
Prof. Julia King
Aston University, UK

3B

Low-Energy Architecture

CHAIRPERSON: HAZIM AWBI, UNIVERSITY OF READING, UNITED KINGDOM

Toward Near-Zero Energy and Carbon Emissions in Buildings and Communities: Overview on R&D and Innovation Projects
Dr Morad Atif
National Research Council – Institute for Research in Construction (NRC-IRC), Canada

Parallel keynote lectures 4, Wednesday 11 May, 08.30 – 09.10

4A

Sustainable Cities and Regions

CHAIRPERSON: MAGNUS KARLSSON, LINKÖPING UNIVERSITY, SWEDEN

A Community-owned Energy Company: Its Role in Renewable Energy and As a Driving Force for Regional Development
Mr Per Laurell
Gävle Energi, Sweden

4B

Industrial Energy Efficiency

CHAIRPERSON: BAHRAM MOSHFEGH, LINKÖPING UNIVERSITY, SWEDEN

The Next Frontier to Realize Industrial Energy Efficiency
Prof. Ernst Worrell
The Copernicus Institute, Utrecht University, the Netherlands

4C

Bioenergy Technology

CHAIRPERSON: MATS SÖDERSTRÖM, LINKÖPING UNIVERSITY, SWEDEN

Waste as a Renewable Energy Source – A Success Story
Mr Mattias Philipsson
The Tekniska Verken Group, Linköping, Sweden

Parallel keynote lectures 5, Thursday 12 May, 08.30 – 09.10

5A

Sustainable Cities and Regions

CHAIRPERSON: LOUISE TRYGG, LINKÖPING UNIVERSITY, SWEDEN

The Road Towards Energy Neutral Cities
Prof. Jacques Kimman
New Energy, South University, the Netherlands

5B

Bioenergy Technology

CHAIRPERSON: MATS SÖDERSTRÖM, LINKÖPING UNIVERSITY, SWEDEN

Large Scale Demonstration Projects in Sweden
Mr Anders Lewald
Swedish Energy Agency, Sweden

5C

Energy End-Use Efficiency Issues

CHAIRPERSON: KAJSA ELLEGÅRD, LINKÖPING UNIVERSITY, SWEDEN

Households as Energy End-Users – And More
Dr Sarah Darby
Environmental Change Institute (ECI), Oxford University, UK

Parallel keynote lectures 6, Thursday 12 May, 13.15 – 14.00

6A

Solar Thermal Applications

CHAIRPERSON: EWA WÄCKELGÅRD, UPPSALA UNIVERSITY, SWEDEN

The Centenary Solar Collectors for Heating Water
Prof. Brian Norton
Dublin Institute of Technology (DIT), Ireland

6B

Climate Change

CHAIRPERSON: MAGNUS KARLSSON, LINKÖPING UNIVERSITY, SWEDEN

The New Era of Climate Policy: Spurring Energy Transition Through Side-effects
Prof. Björn-Ola Linnér
Centre for Climate Science and Policy Research (CSPR), Linköping University, Sweden

Parallel keynote lectures 7, Friday 13 May, 08.30 – 09.10

7A

Photovoltaic Technology

CHAIRPERSON: ERIK DAHLQUIST, MÄLARDALEN UNIVERSITY, SWEDEN

Solar Photovoltaics: Technology, Performance, and Costs (Or how high and how low?)
Dr Lawrence L. Kazmerski
National Center for Photovoltaics, National Renewable Energy Laboratory (NREL), USA

7B

Sustainable Cities and Regions

CHAIRPERSON: LARS J. NILSSON, LUND UNIVERSITY, SWEDEN

Pathway to a Fully Sustainable Global Energy System by 2050
Prof. Kornelis Blok
Ecofys, Utrecht, the Netherlands

Parallel presentation sessions

Fourteen lecture sections (A – M) are scheduled over the five days of WREC 2011. During each of these sections, up to eleven parallel sessions within the different topics will take place. The sessions' lengths vary, with 3 – 7 presentations scheduled for each session. Each presenter is given 15 minutes of presentation time followed by 5 minutes for discussion with the audience. The program is organized in alphabetical topic order.

Presentation schedule overview

			Mon		Tue				Wed		Thu				Fri	
			14.10 – 15.50	16.10 – 18.10	09.20 – 10.20	10.40 – 12.00	14.10 – 15.30	15.50 – 18.10	09.20 – 10.20	10.40 – 11.40	09.20 – 10.20	10.40 – 12.00	14.10 – 15.30	15.50 – 18.10	09.20 – 10.40	11.00 – 12.20
	Topic	**Pages**	A	B	C	D	E	F	G	H	I	J	K	L	M	N
BE	Bioenergy Technology	11 – 15		*	*	*							*	*	*	
CC	Climate Change Issues	15 – 16														
EEE	Energy End-Use Efficiency Issues	16 – 18														
FC	Fuel Cells	18 – 19														
GA	Geothermal Applications	19 – 20														
HP	Hydropower Applications	20														
IEE	Industrial Energy Efficiency	20 – 22														
LEA	Low-Energy Architecture	22 – 24														
MO	Marine and Ocean Technology	24 – 25														
PI	Policy Issues	25 – 27														
PV	Photovoltaic Technology	27 – 29														
SCR	Sustainable Cities and Regions	29 – 32			*	*	*	*								
ST	Sustainable Transport	32 – 33														
STH	Solar Thermal Applications	33 – 35			*											
WE	Wind Energy Applications	35 – 36														

* Two parallel sessions are given for the same topic. Those sessions are numbered A1, A2 etc. in this program.

Bioenergy Technology (BE)

BE – A1

Monday 9 May, 14.10 – 15.30

CHAIRPERSON: MATS EKLUND, LINKÖPING UNIVERSITY, SWEDEN

BE0375: **Fuel supplier selection for large scale UK bioenergy schemes**
Scott, James A.; Ho, William; Kumar Dey, Prasanta
Operations and Information Management, Aston University, United Kingdom

BE0389: **Bioenergy Decision Support Systems: Worth the Effort?**
Wright, Daniel; Dey, Prasanta; Brammer, John; Hunt, Phil
Operations and Information Management, Aston University, United Kingdom

BE0471: **Options for Increased Use and Refining of Biomass – the Case of Energy-intensive Industry in Sweden**
Ljungstedt, Hanna; Johansson, Daniella; Johansson, Maria T; Karltorp, Kersti
Department of Energy and Environment, Chalmers University of Technology, Sweden

BE1084: **Is Bioenergy the Big Bad Wolf in the Forestry Sector? A discussion about the sustainable supply chain management role in bioenergy systems.**
Sanches Pereira, Alessandro
KTH/ITM/ECS, Sweden

BE – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: ANNIKA BJÖRN, LINKÖPING UNIVERSITY, SWEDEN

BE0072: **Bioenergy production in the Toruń biogas plant (Poland)**
Iglinski, Bartlomiej; Sobolski, Jerzy
Department of Chemical Proecological Process, Nicolaus Copernicus University, Poland

BE0251: **Influence of different cell disruption techniques on mono digestion of algal biomass**
Schwede, Sebastian; Kowalczyk, Alexandra; Gerber, Mandy; Span, Roland
Ruhr-University Bochum, Germany

BE0333: **Scale up of laboratory scale to industrial scale biogas plants**

Kowalczyk, Alexandra; Schwede, Sebastian; Gerber, Mandy; Span, Roland
Chair of Thermodynamics, Ruhr-Universität Bochum, Germany

BE0403: **The effect of distinct operational conditions on organic material removal and biogas production in the anaerobic treatment of cattle manure**
Manav Demir, Neslihan; Coşkun, Tamer; Debik, Eyüp
Yildiz Technical University, Turkey

BE0949: **Biogas Production from Agricultural Wastes in Laboratory Scale Biogas Plant**
Kucukkara, Berk; Yaldiz, Osman; Sozer, Salih; Ertekin, Can
Farm Machinery Dept., Akdeniz University, Turkey

BE1028: **Slaughterhouse waste co-digestion – Experiences from 15 years of full-scale operation**
Ek, A.E.W.; Hallin, S.; Vallin, L.; Schnürer, A.; Karlsson, M.
Tekniska Verken/Linköping University, Sweden

BE – B2

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: PENJIT SRINOPHAKUN, KASETSART UNIVERSITY, THAILAND

BE0203: **Development of Process Technology to Produce Low Cost Biofuel I -Minimization of Operating Parameters during Preparation of Biodiesel**
Parida, Soumya; Misra, Sunasira; Sahu, Debendra Kumar
Department of Chemistry, C.V.Raman College of Engineering, India

BE0234: **Orthogonal array design for biodiesel production optimization – using ultrasonic-assisted transesterification of Camelina sativa L. Crantz oil**
Wu, Xuan; Leung, Dennis Y.C.
Department of Mechanical Engineering, The University of Hong Kong, China

BE0529: **Lipase catalyzed transesterification of tung and palm oil for biodiesel**
Wang, Ya-Nan; Chen, Ming-Hsun; Ko, Chun-Han; Lu, Pei-Jen; Chern, Jia-Ming; Wu, Chien-Hou; Chang, Fang-Chih
National Taiwan University, Taiwan

BE1049: **Study on Reaction Conditions in Whole Cell Biocatalyst Methanolysis of Pretreated Used Cooking Oil**
Pazouki, Mohammad; Zamani, Farzane; Zamzamian, Seyed Amir Hossein; Najafpour, Ghasem
Energy & Env., Materials and Energy Research Center, Iran

BE1081: **EN 14103 adjustments for biodiesel analysis from different raw materials, including animal tallow containing C17**
Gasparini, Fabrícia; de O. Lima, José Renato; Ghani, Yussra A.; Hatanaka, Rafael R.; Sequinel, Rodrigo; Flumignan, Danilo L.; de Oliveira, José Eduardo
Organic, UNESP, Brazil

BE1082: **Indian-nut (Aleurites moluccana) and tucum (Astrocaryum vulgare), non agricultural sources for biodiesel production using ethanol: composition, characterization and optimization of the reactional production conditions**
de O. Lima, José Renato; Gasparini, Fabricia; de L. Camargo, Nadia; Ghani, Yussra A.; da Silva, Rondenelly B.; de Oliveira, José Eduardo
Organic, UNESP, Brazil

BE – C1/D1

Tuesday 10 May, 09.20 – 11.20 (including coffee break)

CHAIRPERSON: BO SVENSSON, LINKÖPING UNIVERSITY, SWEDEN

BE1134: **A bubbling fluidized bed combustion system for forest residues**
Goncalves, Anthony; Kiss, Laszlo; Farinas, Marie-Isabelle; Rousse, Daniel
École de technologie supérieure, t3e Industrial Research Chair, Canada

BE0255: **Assessment of the energetic efficiency of a continuously operating plant for hydrothermal carbonisation of biomass**
Stemann, Jan; Ziegler, Felix
Department of Energy Conversion Engineering, Technische Universität Berlin, Germany

BE1066: **Minimization of exergy losses in combustion processes with an illustration of a membrane combustion**
Lampinen, Markku J.; Wiksten, Ralf; Sarvi, Arto; Saari, Kari; Penttinen, Marjut
Department of Energy Technology, Aalto University, Finland

BE0330: **Sugar Cane Trash Pyrolysis for Bio-oil Production in a Fluidized Bed Reactor**
Treedet, Wasakron; Suntivarakorn, Ratchaphon
Department of Mechanical Engineering, Khon Kaen University, Thailand

BE0504: **Combustion of some Thai agricultural and wood residues in a pilot swirling fluidized-bed combustor**
Kuprianov, Vladimir I.; Arromdee, Porametr; Chakritthakul, Songpol; Kaewklum, Rachadaporn; Sirisomboon, Kasama
Department of Mechanical Engineering, SIIT, Thammasat University, Thailand

BE – C2

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: EDUARDO VON SPERLING, FEDERAL UNIVERSITY OF MINAS GERAIS, BRAZIL

BE0208: **Bioethanol production from cotton stalks or corn stover? A comparative study of their sustainability performance**
Pappis, Costas P.; Petrou, Evangelos C.
Industrial Management & Technology, University of Piraeus, Greece

BE0331: **Assessing the Environmental Performance of Integrated Ethanol and Biogas Production**
Martin, Michael; Svensson, Niclas; Fonseca, Jorge
Environmental Technology and Management, Linköping University, Sweden

BE0433: **Evaluation of bamboo as a feedstock for bioethanols in Taiwan**
Wang, Ya-Nang; Ko, Chun-Han; Lee, Chih-Yuan; Tsai, Heng-Ping; Chen, Wen-Hua; Hwang, Wen-Song; Tsai, Ming-Jer; Chang, Fang-Chih
School of Forestry and Resource Conservation, National Taiwan University, Taiwan

BE – D2

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: DANIEL ROUSSE, ÉCOLE DE TECHNOLOGIE SUPÉRIEURE, CANADA

BE0307: **Production of microalgae biomass and biohydrogen in solar bioreactors**
Patiño, Rodrigo; Robledo, Daniel; Martín del Campo, Julia S.
Física Aplicada, Cinvestav-Merida, Mexico

BE0312: **Improvement of enzymatic hydrolysis of a marine macro-alga by dilute acid hydrolysis pretreatment**
Yazdani, Parviz; Karimi, Keikhosro; Taherzadeh, Mohammad J.
School of Engineering, University of Borås, Sweden

BE0780: **Biodiesel from Microalgae as a solution of third world energy crisis**
Kais, Md.Imran; Chowdhury, Farsad Imtiaz; Shahriar, Kazy Fayeen
Electrical & Electronic Engineering, Islamic University of Technology, Bangladesh

BE0947: **Preliminary study of hydrogen production from local arid area algae in a bubble column**

Naceur, M. W.; Kaidi, F.; Rihani, R.; Messaoudene, N. Ait
Department of Industrial chemistry, university of Blida, Algeria

BE – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: DANIEL ROUSSE, ÉCOLE DE TECHNOLOGIE SUPÉRIEURE, CANADA

BE0290: **Short Rotation Coppice in Italy: a model to asses economic, energetic and environmental performances of different crop systems**
Jacopo, Bacenetti; Marco, Fiala
Department of Agricultural Engineering, University of Milan, Italy

BE0751: **Integral analysis of feedstocks and technologies for Biodiesel production in tropical and subtropical countries**
Cardona, Carlos Ariel; Rincón, Luis Eduardo; Jaramillo, Juan Jacobo
Department of Chemical Engineering, Universidad Nacional de Colombia sede Manizales, Colombia

BE0787: **Evaluation of the factors that affect the lignin content in the reed canarygrass (Phalaris arundinacea L.) in Latvia**
Poisa, Liena; Adamovics, Aleksandrs; Platace, Rasma; Teirumnieka, Erika
Latvian University of Agriculture, Latvia

BE0919: **Integrated Research on Jatropha curcas Plantation Management**
Srinophakun, Penjit; Saimaneerat, Anna; Sooksathan, Isara; Visarathanon, Niphon; Malaipan, Savitree; Charernsom, Kosol; Chongrattanameteekul, Wiboon
Department of Chemical Engineering, Kasetsart University, Thailand

BE – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: LEENARD BAAS, LINKÖPING UNIVERSITY, SWEDEN

BE0172: **Biomass waste – a source of raw materials and new energy source**
Kunaver, Matjaz; Jasiukaityte, Edita; Cuk, Natasa; Medved, Sergej; Opresnik, Samuel Rodman; Katrasnik, Tomaz
Polymer chemistry and technology, National Institute of Chemistry, Slovenia

BE0291: **Sustainable energy from dairy farm waste using a Microbial Fuel Cell (MFC)**
Zhang, XiaoNan; Porcu, Laura; Andresen, John M.
Faculty of Engineering, University of Nottingham, United Kingdom

BE0668: **Comparison of the combustion behaviors of agricultural wastes under dry air and oxygen**
Haykiri-Acma, Hanzade; Yaman, Serdar
Department of Chemical Engineering, Istanbul Technical University, Turkey

BE – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: COSTAS PAPPIS, UNIVERSITY OF PIRAEUS, GREECE

BE0050: **Nigeria's Bio-Ethanol: Need for Capacity Building Strategies to prevent Food Crises**
Agboola, O. Phillips; Agboola, O. Mary
Department of Mechanical Engineering, Eastern Mediterranean University, Nigeria

BE0369: **Planting sweet sorghum under hot and dry climatic condition for bioethanol production**
Almodares, A.; Hatamipour, M.S.
Biology Department, University of Isfahan, Iran

BE0953: **Evaluation of greenhouse gas emission by ethanol production from sugarcane (case study of Minas Gerais, Brazil)**
Garcia, Juan C.C.; v. Sperling, Eduardo
Sanitary and Environmental Engineering, Federal University of Minas Gerais, Brazil

BE – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: YOSHIMITSU UEMURA, UNIVERSITI TEKNOLOGI PETRONAS, MALAYSIA

BE0281: **An environmental optimization model for bioenergy plant sizes and locations for the case of wood-derived SNG in Switzerland**
Steubing, Bernhard; Ballmer, Isabel; Thees, Oliver; Gerber, Léda; Maréchal, François; Zah, Rainer; Ludwig, Christian
Life Cycle Assessment and Modeling, Empa, Switzerland

BE0393: **Synergy effects on combining hydrogen and gasification for synthetic biogas**
Mohseni, Farzad; Görling, Martin; Alvfors, Per
Energiprocesser, KTH, Sweden

BE1086: **Economic feasibility of biomass gasification for small-scale electricity generation in Brazil**
Fracaro, Guilherme P. M.; Souza, S. N. M.; Medeiros, M.; Formentini, D. F.; Marques, C. A.
Universidade do Oeste do Paraná, Brazil

BE – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: MARTIN KARLSSON, LINKÖPING UNIVERSITY, SWEDEN

BE0138: **Evaluation of biodiesel production from babassu oil and ethanol applying alkaline transesterification under ultrasonic technology**
Paiva, E. J. M.; Silva, M. L. C. P.; Castro, H.F.; Barboza, J. C. S.; Giordani, D. S.
Department of Chemical Engineering, School of Engineering of Lorena - USP, Brazil

BE0509: **A Comparative Study of Immobilized-Whole Cell and Commercial Lipase as a Biocatalyst for Biodiesel Production from Soybean Oil**
Hashemizadeh, S.N.; Tavakoli, O.; Tabandeh, F.; Karkhane, A.A.; Forghanipour, Z.
NIGEB, Iran

BE0957: **Methyl ester production from chicken fat with high FFA**
Alptekin, Ertan; Canakci, Mustafa; Sanli, Huseyin
Technical Education Faculty, Kocaeli University, Turkey

BE0989: **Optimization on the use of crude glycerol from the biodiesel production to obtain poly-3-hydroxybutyrate**
Posada, John A.; Higuita, Juan C.; Cardona, Carlos A.
Department of Chemical Engineering, Universidad Nacional de Colombia, Colombia

BE – K1

Thursday 12 May, 14.10 – 15.50

CHAIRPERSON: LEENARD BAAS, LINKÖPING UNIVERSITY, SWEDEN

BE0224: **Theoretical Bioenergy Potential in Cambodia and Laos**
Akgun, Orkide; Korkeakoski, Mika; Mustonen, Suvisanna; Luukkanen, Jyrki
University of Turku, Finland

BE0531: **Growing Biomass Fuel Industry, Declining Local Forage Demands, and Changing Greenhouse Gas Emissions from US Agriculture: A Case Study**
Gallagher, Paul W.; Richey, Jeremiah
Department of Economics, iowa state university, USA

BE0551: **Enhanced Renewable Energy Adoption for Sustainable Development in India: Interpretive Structural Modeling Approach**
Eswarlal, Vimal Kumar; Kumar Dey, Prasanta; Shankar, Ravi
Aston Business School, Aston University, United Kingdom

BE0841: **Promoting Biofuels Adoption in Nigeria: A Review of Socio-economic Drivers and Incentives**
Abila, Nelson
Industrial Management, University of Vaasa, Finland

BE0899: **The bioenergy potential for the centre Region of Portugal: the use of biomass as a fuel source**
Esteves, Tanya C.J.; Ferreira, António J.D.; Teixeira, José C.; Cabral, Pedro
CERNAS, ESAC, Portugal

BE – K2

Thursday 12 May, 14.10 – 15.30

CHAIRPERSON: MARTIN KARLSSON, LINKÖPING UNIVERSITY, SWEDEN

BE0521: **Improvement of sweet sorghum bagasse hydrolysis by alkali and acidic pretreatments**
Goshadrou, Amir; Karimi, Keikhosro; Taherzadeh, Mohammad J.
School of Engineering, University of Borås, Sweden

BE0791: **Intensification of Bioethanol Production by Simultaneous Saccharification and Fermentation (SSF) in an Oscillatory Baffled Reactor (OBR)**
Ikwebe, Joseph; Harvey, Adam P
Chemical Engineering and Advanced Materials, Newcastle University, UK, United Kingdom

BE0918: **Chemical and Microbial Hydrolysis of Sweet Sorghum Bagasse for Ethanol Production**
Thanapimmetha, Anusith; Vuttibunchon, Korsuk; Saisriyoot, Maythee; Srinophakun, Penjit
Department of Chemical Engineering, Kasetsart University, Thailand

BE1198: **Ethanolysis of Soybean Oil Using Mesoporous Molecular Sieves**
Quintella, Solange A.; Salmin, Davi C.; Araújo, Antonio S.; Albuquerque, Monica C.G.; Cavalcante Jr., Célio L.
Department of Chemical Engineering, Univ Federal Ceara, Brazil

BE – L1

Thursday 12 May, 15.50 – 18.10

CHAIRPERSON: MATS EKLUND, LINKÖPING UNIVERSITY, SWEDEN

BE0093: **Parametric study of portable floating type biogas plant**
Agrahari, Ravi P.; Tiwari, G. N.
Center for Energy Studies, Indian Institute of Technology Delhi, India

BE0520: **Effect of organic loading rates (OLR) on production of methane from anaerobic digestion of vegetables waste**
Babaee, Azadeh; Shayegan, Jalal
Sharif University of Technology, Iran

BE1056: **Potential for the production of biogas in alcohol and sugar cane plants for use in urban buses in the Brazil**
de Souza, Samuel N. M.; Santos, Reginaldo F.; Fracaro, Guilherme P. M.
Engenharia Agrícola, UNIOESTE - Universidade Estadual do Oeste do Paran, Brazil

BE1089: **Brazil's potential for generating electricity from biogas from stillage**
Santos, Reginaldo Ferreira; Borsoi, Augustinho; Secco, Deonir; Melegari de Souza, Samuel Nelson; Constanzi, Ricardo Nagamine
Engenharia Agrícola, UNIOESTE - Universidade Estadual do Oeste do Paran, Brazil

BE1091: **Electricity generation from biogas of poultry slaughterhouse biomass in Matelandia – Brazil**
Formentini, Diana Fatima; Mmoreira Fracaro, Guilherme de Paula; Costanzi, Ricardo Nagamine; Melegari de Souza, Samuel Nelson; Marques, Cleber Aimone
Universidade do Oeste do Paraná, Brazil

BE1112: **Economic evaluation of an industrial biogas system for production of gas, electricity and liquid compost**
Ghazi, S.; Abbaspour, M.
Department of Environmental Engineering, Azad university-Parand branch, eng:IRN

BE0882: **Development of an anaerobic hydrogen and methane fermentation system for kitchen waste biomass utilization**
Osaka, Noriko; Nagai, Kohki; Mizuno, Shiho; Sakka, Makiko; Sakka, Kazuo
Technology Research Institute, Tokyo Gas Co., Japan

BE – L2

Thursday 12 May, 15.50 – 17.10

CHAIRPERSON: PENJIT SRINOPHAKUN, KASETSART UNIVERSITY, THAILAND

BE0269: **An environmental assessment of the production of biodiesel from waste oil : two case studies**
McManus, Marcelle C
Department of Mechanical Engineering, University of Bath, United Kingdom

BE0343: **Feasibility of Jatropha oil for biodiesel: Economic Analysis**
Ofori-Boateng, Cynthia; Lee, Keat Teong
School of Chemical Engineering, Universiti Sains Malaysia, Malaysia

BE0593: **Novel Production Of Biofuels From Neem Oil**
Radha, K.V.
Department of Chemical Engineering, Anna University, India

BE0950: **Characterization of Waste Frying Oils Obtained from Different Facilities**
Sanli, Huseyin; Canakci, Mustafa; Alptekin, Ertan
Technical Education Faculty, Kocaeli University, Turkey

BE – M1

Friday 13 May, 09.20 – 10.40

CHAIRPERSON: YOSHIMITSU UEMURA, UNIVERSITI TEKNOLOGI PETRONAS, MALAYSIA

BE0128: **Thermodynamic analysis and potential efficiency improvements of a biochemical process for lignocellulosic biofuel production**
Sohel, M. Imroz; Jack, Michael W.
Green Processing, Scion, New Zealand

BE0339: **Co-production of electricity, heat and biocoal pellets from biomass: a techno-economic comparison with wood pelletizing**
Erlach, Berit; Wirth, Benjamin; Tsatsaronis, George
Institute for Energy Engineering, Technische Universität Berlin, Germany

BE0639: **Effect of atmosphere on torrefaction of oil palm wastes**
Uemura, Yoshimitsu; Omar, Wissam N.; Othman, Noor Aziah Bt; Yusup, Suzana Bt; Tsutsui, Toshio
Center for Biofuel and Biochemical Research, Universiti Teknologi Petronas, Malaysia

BE0693: **Biofuels Production Process and the Net Effect of Biomass Energy Production on the Environment**
Heydariazad, M.R.; Nasab, R. Khatibi; Givtaj, S.; Chatabi, S.J. Amadi
Department of Mechanical & Aerospace Engineering, Science and Research Branch, Azad University, Iran

BE – M2

Friday 13 May, 09.20 – 10.40

CHAIRPERSON: BO SVENSSON, LINKÖPING UNIVERSITY, SWEDEN

BE0210: **Simple extraction method of green crude from natural blue-green microalgae by dimethyl ether: Extraction efficiency on several species compared to the Bligh-Dyer's method**
Kanda, Hideki; Li, Peng
Energy Engineering Research Laboratory, Central Research Institute of Electric Power Indus, Japan

BE0505: **Production of synthetic alcohol from syngas using MoS_2/γ-Al_2O_3**

Chiang, S. W.; Chang, C. C.; Chang, H. Y.; Chang, C. Y.
Graduate Insitute of Environment Engineering, National Taiwan University, Taiwan

BE0518: **Thermal treatment of Rapeseed oil**
Palanisamy, Shanmugam; Gevert, Börje S.
Department of Surface Chemistry, Chalmers University Of Technology, Sweden

BE1007: **Catalytic cracking characteristics of bio-oil molecular distillation fraction**
Guo, Zuogang; Wang, Shurong; Yin, Qianqian; Xu, Guohui; Luo, Zhongyang; Cen, Kefa; Fransson, Torsten H.
Zhejiang University, China

BE – N1

Friday 13 May, 11.00 – 12.20
CHAIRPERSON: EDUARDO VON SPERLING, FEDERAL UNIVERSITY OF MINAS GERAIS, BRAZIL

BE0121: **Improvements in Bioethanol Production Process from Straw**
Kahr, Heike; Jäger, Alexander G.
BUT, FH Wels, Austria

BE0510: **Improvement of enzymatic hydrolysis of rice straw by N-methylmorpholine-N-oxide (NMMO) pretreatment**
Poornejad, Nafiseh; Salehi, S.M. Amin; Karimi, Keikhosro; Taherzadeh, M.J.; Behzad, Tayebeh
School of Engineering, University of Borås, Sweden

BE0709: **Ethanol production by Mucor indicus using the fungal autolysate as a nutrient supplement**
Asachi, Reihaneh; Karimi, Keikhosro; Taherzadeh, Mohammad J.
School of Engineering, University of Borås, Sweden

BE0086: **Yeast adaptation on the substrate straw**
Kahr, Heike; Helmberger, Sara; Jäger, Alexander G.
BUT, FH Wels, Austria

Climate Change Issues (CC)

CC – G1

Wednesday 11 May, 09.20 – 10.20
CHAIRPERSON: BJÖRN-OLA LINNÉR, LINKÖPING UNIVERSITY, SWEDEN

CC0065: **Risk based adaptation to climate change**
Eriksson, Kjell; Friis-Hansen, Peter
Research and Innovation, DNV, Norway

CC0419: **How much energy can we consume?**
Dimitriev, Oleg P.
Institute of Semiconductor Physics, Ukraine

CC0616: **Effective Urban Energy Planning and Governance: A New Conceptual Framework**
Jabareen, Yosef R.
Architecture and Town Planning, Technion, Israel

CC – H1

Wednesday 11 May, 10.40 – 11.40
CHAIRPERSON: BJÖRN-OLA LINNÉR, LINKÖPING UNIVERSITY, SWEDEN

CC0254: **Simple Statistical Model for Complex Probabilistic Climate Projections: Overheating Risk and Extreme Events**
Patidar, Sandhya; Jenkins, David; Banfill, Phil; Gibson, Gavin
School of Mathematical and Computer Sciences, Heriot-Watt University, United Kingdom

CC0296: **Incorporating Climate Change Projections into Building design: A Qualitative Study**
Gul, Mehreen; Menzies, Gill; Banfill, Phil
School of the Built Environment, Heriot-Watt University, United Kingdom

CC0314: **Towards a unifying visualization modelling platform for supporting climate change conscious urban neighbourhood design**
Elwan, Amr; Peng, Chengzhi; Fahmy, Mohammad
School of Architect, Sheffield University, United Kingdom

CC – J1

Thursday 12 May, 10.40 – 12.00
CHAIRPERSON: BJÖRN-OLA LINNÉR, LINKÖPING UNIVERSITY, SWEDEN

CC0463: **Influence of Indirect Land Use Change on the GHG Balance of Biofuels – A Review of Methods and Impacts**
Dunkelberg, Elisa; Finkbeiner, Matthias; Hirschl, Bernd
IOEW, Germany

CC0719: **Climate change mitigation through increased biomass production and substitution: A case study in north-central Sweden**
Poudel, Bishnu Chandra; Sathre, Roger; Gustavsson, Leif; Bergh, Johan
Engineering and Sustainable Development, Mid Sweden University, Sweden

CC0752: **Influence of biofuels production on the climate change**
Cardona, Carlos A.; Valencia, Monica J.; Quintero, Julian A.
Department of Chemical Engineering, Universidad Nacional de Colombia sede Manizales, Colombia

CC0756: **Impact of Climate Change on Wheat Production for Ethanol in Southern Saskatchewan, Canada**
Wang, Hong; He, Yong; Qian, Budong; McConkey, Brian; Cutforth, Herb; McCaig, Tom; McLeod, Grant; Zentner, Robert; Campbell, Con; DePauw, Ron; Lemke, Reynald; Brandt, Kelsey; Liu, Tingting; Qin, Xiaobo; Hoogenboom, Gerrit; White, Jeffrey; Hunt, Tony
SPARC/AAFC, Canada

CC – K1

Thursday 12 May, 14.10 – 15.30
CHAIRPERSON: ANNA JONSSON, LINKÖPING UNIVERSITY, SWEDEN

CC0328: **Thermodynamic and dynamic investigation for CO_2 storage in deep saline aquifers**
Ji, Xiaoyan; Ji, Yuanhui; Xiao, Chongwei
Division of Energy Engineering, Luleå University of Technology, Sweden

CC0338: **Mineral sequestration for CCS in Finland and abroad**
Zevenhoven, Ron; Fagerlund, Johan
Thermal and Flow Engineering, Åbo Akademi University, Finland

CC0381: **CO_2 capture in oil refineries – an evaluation of different heat integration possibilities for heat supply to the post-combustion process**
Johansson, Daniella; Franck, Per-Åke; Berntsson, Thore
Energy and Environment, Värmeteknik och Maskinlära, Chalmers University of Technology, Sweden

CC1120: **BECCS in South Korea – An Analysis of Negative Emissions Potential for Bioenergy as a Mitigation Tool**
Kraxner, Florian; Aoki, Kentaro; Leduc, Sylvain; Kindermann, Georg; Yang, Jue; Yamagata, Yoshiki; Il Tak, Kwang; Obersteiner, Michael;
Ecosystems Services and Management Program (ESM), International Institute for Applied Systems Analys, Austria

CC – L1

Thursday 12 May, 15.50 – 16.50
CHAIRPERSON: ANNA JONSSON, LINKÖPING UNIVERSITY, SWEDEN

CC0212: **What are the rules for biofuel carbon accounting?**
Johnson, Eric P
Atlantic Consulting, Switzerland

CC0329: **Coupling mass transfer with mineral reactions to investigate CO_2 sequestration in saline aquifers with non-equilibrium thermodynamics**

Ji, Yuanhui; Ji, Xiaoyan; Lu, Xiaohua; Tu, Yongming
Division of Energy Engineering, Luleå University of Technology, Sweden

CC0489: **Clean Coal Utilization Based on Underground Coal Gasification Integrated Solid Oxide Fuel Cells and Carbon dioxide Sequestration**
Prabu, V; Jayanti, S
Department of Chemical Engineering, Indian Institute of Technology Madras, India

CC – M1

Friday 13 May, 09.20 – 10.20

CHAIRPERSON: BJÖRN-OLA LINNÉR, LINKÖPING UNIVERSITY, SWEDEN

CC0576: **Climate Change and Water Resources for Energy Generation in Tanzania**
Malley, Z.J.U.
Research & Development, Ministry of Agric, Food Security & Cooperatives, Tanzania

CC0771: **Optimal hydraulic structures profiles under uncertain seepage head**
Mohan Singh, Raj
Civil Enginerring, MNNIT, India

CC0790: **The impact of the March 10, 2009 dust storm on meteorological parameters in central Saudi Arabia**
Maghrabi, Abdullrahman H.
NCMP, KACST, Saudi Arabia

CC – N1

Friday 13 May, 11.00 – 12.00

CHAIRPERSON: BJÖRN-OLA LINNÉR, LINKÖPING UNIVERSITY, SWEDEN

CC0353: **The medium to long-term role of renewable energy sources in climate change mitigation in Portugal**
Simões, Sofia; Seixas, Júlia; Fortes, Patrícia; Dias, Luís; Gouveia, João; Maurício, Bárbara
Environmental Sce & Eng, New University of Lisbon, Portugal

CC0422: **Diversified analysis of renewable energy contribution for energy supply in Asian regions**
Kayo, Genku; Ikegami, Takashi; Ehara, Tomoki; Oyamada, Kazuyo; Ashina, Shuichi; Fujino, Junichi
National Institute for Environmental Studies, Japan

CC1070: **Scenario analysis of the potential for CO_2 emission reduction in the Iranian cement industry**
Atabi, Farideh; Ahadi, Mohammad Sadegh; Bahramian, Kiandokht
Graduate School of Energy and Environment, Science and Research Branch, IAU, Iran

Energy End-Use Efficiency Issues (EEE)

EEE – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: STAFFAN ANDERSSON, UMEÅ UNIVERSITY, SWEDEN

EEE0263: **Review on graphite foam as thermal material for heat exchangers**
Lin, Wamei; Yuan, Jinliang; Sundén, Bengt
Department of Energy Sciences, Lund University, Sweden

EEE0316: **The thermal response of heat storage system with paraffin and paraffin/expanded graphite composite for hot water supply**
Zhang, P.; Xia, L.; Wang, R.Z. (presented by Zhiwei, Ma)
Institute of refrigeration and Cryogenics, Shanghai Jiao Tong University, China

EEE0359: **Effect of different working fluids on shell and tube heat exchanger to recover heat from exhaust of an automotive diesel engine**
Hossain, S.N.; Bari, S
School of Advanced Manufacturing and Mech Eng, University of South Australia, Australia

EEE0442: **Working fluid selection for Organic Rankine Cycle applied to heat recovery systems**
Bândean, D.C.; Smolen, S.; Cieslinski, J.T.
University of Applied Science Bremen, Germany

EEE0482: **Examining the effect of heat storage in a cogeneration system**
Salehi, G.R.; Taghdiri, E.; Deldadeh, D.
Department of Mechanical Engineering, Islamic Azad University, Iran

EEE1136: **Low exergy heat recovery for sustainable indoor agriculture**
Goncalves, Anthony; Rousse, Daniel; Milot, Julien
École de technologie supérieure, t3e Industrial Research Chair, Canada

EEE – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: MATS SÖDERSTRÖM, LINKÖPING UNIVERSITY, SWEDEN

EEE0144: **Environmental analysis of various systems for the cogeneration of biogas produced by an urban wastewater treatment plant (UWTP). (III).**
Coble, J.J.; Contreras, A.
Quimica Aplicada a la Ingenieria, Uned, Spain

EEE0647: **Research on energy-saving and exhaust gas emissions compared between catalytic combustion and gas-phase combustion of natural gas**
Zhang, Shihong; Wang, Zhihua
Beijing University of Civil Engineering and Arch., China

EEE0734: **Experimental and theoretical evaluation of the performance of a Whispergen Mk Vb micro CHP unit in typical UK house conditions**
Alexakis, A.; Gkounis, G.; Mahkamov, K.; Davis, J.
Department of Engineering, Northumbria University, United Kingdom

EEE – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: JANET STEPHENSON, UNIVERSITY OF OTAGO, NEW ZEALAND

EEE0189: **Performance analysis of integrated wind, photovoltaic and biomass energy systems**
Afzal, Anis
Department of Electrical Engineering, Aligarh Muslim University, India

EEE0253: **Feasibility Study of Solar-Wind Based Standalone Hybrid System for Application in Ethiopia**
Bekele Beyene, Getachew
Addis Ababa Institute of Technology, Addis Ababa University, Ethiopia

EEE0363: **Analysis of the training metrics of ANNs and linear MCP models used for wind power density estimation at a candidate site**
Velázquez, Sergio; Carta, José A.; Matías, José
Department of Electronic and Automatic Engineering, University of Las Palmas de Gran Canaria, Spain

EEE0750: **Using Electric Water Heaters (EWHs) for Power Balancing and Frequency Control in PV-Diesel Hybrid Mini-Grids**
Elamari, K.; Lopes, L.A.C.; Tonkoski, R.
Department of Electrical and Computer Eng., Concordia University, Libya

EEE – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: JANET STEPHENSON, UNIVERSITY OF OTAGO, NEW ZEALAND

EEE0386: **Impacts of large-scale solar and wind power production on the balance of the Swedish power system**
Widén, Joakim; Åberg, Magnus; Henning, Dag
Deprtment of Engineering Sciences, Uppsala University, Sweden

EEE0481: **Sustainable working media selection for renewable energy technologies**
Mazur, Victor A.; Nikitin, Dmytro
Department of Thermodynamics, Academy of Refrigeration, Ukraine

EEE0735: **Interactions between selected energy use and production characteristics of German manufacturing plants**
Petrick, Sebastian; Rehdanz, Katrin; Wagner, Ulrich
Kiel Institute for the World Economy, Germany

EEE0778: **Robin Hood and Donkey Theorems: a framework for renewable energy in Ghana**
Ndzibah, Emmanuel
Department of Production, University of Vaasa, Finland

EEE – F1

Tuesday 10 May, 15.50 – 18.10

CHAIRPERSON: JENNY PALM, LINKÖPING UNIVERSITY, SWEDEN

EEE0035: **Energy efficiency optimization algorithm for roadway illumination using ARM7TDMI architecture**
de Oliveira, Rafael B.; Líbano, Fausto B.
Department of Energy Efficiency, Faculdade de Tecnologia Senai Porto Alegre, Brazil

EEE0133: **Experimental Evaluation of a Gas Engine Driven Heat Pump Incorporated with Heat Recovery Subsystems for Water Heating Applications**
Elgendy, E.; Boye, G.; Schmidt, J.; Khalil, A.; Fatouh, M.;
Institut für Strömungstechnik und Thermodynamik, Otto-von-Guericke-Universität Magdeburg, Germany

EEE0377: **Building performance based on measured data**
Andersson, S.; Sjögren, J-U; Östin, R.; Olofsson, T.
Applied physics and electronics, Umeå University, Sweden

EEE0427: **Sustainable use of electrical energy at the University of Sonora, Mexico**
Munguía, N.; Zavala, A.; Velázquez, L.
Department of Industrial Engineering, University of Sonora, Mexico

EEE0874: **Energy and Environmental Aspects of Data Centers**
Spatari, Sabrina; Kandasamy, Nagarajan; Kusic, Dara; Ellis, Eugenia V.; Wen, Jin
Department of Civil, Architectural, Environmental Engineering, Drexel University, USA

EEE1063: **An Intelligent Knowledge Representation of Smart Home Energy Parameters**
Kofler, Mario J.; Reinisch, Christian; Kastner, Wolfgang
Automation Systems Group, Vienna University of Technology, Austria

EEE1135: **Modeling phase change materials behaviour in building applications: selected comments**
Dutil, Yvan; Rousse, Daniel; Lassue, Stéphane; Zalewski, Laurent; Joulin, Annabelle; Virgone, Joseph; Kuznik, Frédéric; Johannes, Kevyn; Dumas, Jean-Pierre; Bédécarrats, Jean-Pierre; Castell, Albert; Cabeza, Luisa F.
École de technologie supérieure, t3e Industrial Research Chair, Canada

EEE – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: SARAH DARBY, UNIVERSITY OF OXFORD, UNITED KINGDOM

EEE0395: **Energy efficiency learning and practice in housing for youths**
Glad, Wiktoria; Thoresson, Josefin
Thematic studies - Technology and social change, Linköping University, Sweden

EEE0926: **Reducing Households' Energy Use: A Segmentation of Flanders on Adoption Intention of Smart Metering Technology**
Stragier, Jeroen; Hauttekeete, Laurence; De Marez, Lieven
Department of User Research, IBBT-MICT-UGENT, Belgium

EEE1107: **A simple estimation method to find the proper capacity of a combined heat and power unit**
Cho, Woojin; Kim, Janghyun; Lee, Kwan-Soo
Department of Mechanical Engineering, Hanyang University, Korea

EEE – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: SARAH DARBY, UNIVERSITY OF OXFORD, UNITED KINGDOM

EEE0026: **Electricity intensities of the OECD and South Africa: A comparison**
Inglesi, Roula; Blignaut, James N.
Department of Economics, University of Pretoria, South Africa

EEE0029: **Direct energy use in the livestock-breeding sector of Cyprus**
Kythreotou, Nicoletta; Florides, Georgios; Tassou, Savvas A.
Mechanical Engineering and Materials Science, Cyprus University of Technology, Cyprus

EEE0081: **Active demand response strategies to improve energy efficiency in the meat industry**
Alcázar-Ortega, Manuel; Escrivá-Escrivá, Guillermo; Álvarez-Bel, Carlos; Domijan, Alexander
Instituto de Ingeniería Energética, Universidad Politécnica de Valencia, Spain

EEE – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: MAGNUS KARLSSON, LINKÖPING UNIVERSITY, SWEDEN

EEE0292: **The importance of end-use technologies for long-term energy use in Sweden**
Bladh, M.
Thematic Studies, Linköping University, Sweden

EEE0435: **Households' energy use – which is the more important: efficient technologies or user practices?**
Gram-Hanssen, Kirsten
Danish Building Research Institute, Aalborg University, Denmark

EEE0535: **Energy variations in apartment buildings due to different shape factors and relative size of common areas**
Danielski, I.
Mittunivesitetet, Sweden

EEE – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: MATS BLADH, LINKÖPING UNIVERSITY, SWEDEN

EEE0721: **Energy Consumption In Non-Domestic Buildings: A Review of Schools**
Kilpatrick, Richard A.R.; Banfill, Phillip F. G.
School of the Built Environment, Heriot-Watt University, United Kingdom

EEE0822: **Modeling Building Semantics: Providing Feedback and Sustainability**
Grzybek, Hubert; Shah, Hussnan H.; Wiafe, Isaac; Gulliver, Stephen R.; Nakata, Keiichi
TSBE Centre, University of Reading, United Kingdom

EEE0883: **Energy Cultures – a framework for interdisciplinary research**
Stephenson, Janet; Lawson, Rob; Carrington, Gerry; Barton, Barry; Thorsnes, Paul
CSAFE, Geography, University of Otago, New Zealand

EEE1105: **Appliances facilitating everyday life – electricity use derived from daily activities**
Ellegård, Kajsa; Widén, Joakim; Vrotsou, Katerina
Technology and social change, Linköping University, Sweden

EEE – K1

Thursday 12 May, 14.10 – 15.30

CHAIRPERSON: JENNY PALM, LINKÖPING UNIVERSITY, SWEDEN

EEE0440: **Providing a Heating Degree Days (HDDs) Atlas across Iran Entire Zones**
Mehrabi, M.; Kaabi-Nejadian, A.; Khalaji Asadi, M.
SRBIAU University, Iran

EEE0763: **Covariates of fuel saving technologies in urban Ethiopia**
Damte, Abebe; Koch, Steven F
Department of Economics, University of Pretoria, South Africa

EEE1033: **Energy performance of Portuguese and Danish wood-burning stoves**
Carvalho, Ricardo L. T.; Jensen, Ole M.; Tarelho, Luís A. C.; Afshari, Alireza; Bergsøe, Niels C.; Andersen, Jes S.
Department of Environment and Planning, University of Aveiro, Portugal

EEE1074: **Field study of energy performance of wood-burning stoves**
Jensen, Ole M.; Afshari, Alireza; Bergsøe, Niels C.; Carvalho, Ricardo L.
Danish Building Research Institute, Aalborg University, Denmark

EEE – L1

Thursday 12 May, 15.50 – 17.50

CHAIRPERSON: KAJSA ELLEGÅRD, LINKÖPING UNIVERSITY, SWEDEN

EEE0467: **Energy Led Refurbishment of Non-Domestic Buildings – Who Leads?**
Strachan, Megan E.; Banfill, Phil F. G.
Heriot Watt University, United Kingdom

EEE0495: **Influence of external actors in Swedish homeowners' adoption of energy efficient windows**
Nair, Gireesh; Mahapatra, Krushna; Gustavsson, Leif
Department of Ecotechnology, Mid Sweden University, Sweden

EEE0571: **The 'time' dimension of electricity, options for the householder, and implications for policy**
Darby, Sarah J.
Environmental Change Institute (ECI), University of Oxford, United Kingdom

EEE0840: **Impacts of end-use energy efficiency measures on life cycle primary energy use in an existing Swedish multi-story apartment building**
Dodoo, Ambrose; Gustavsson, Leif; Sathre, Roger
THU, Mid Sweden University, Sweden

EEE0334: **Mechanical ventilation and heat recovery for low carbon retrofitting in dwellings**
Banfill, Phil F. G.; Simpson, Sophie A.; Gillott, Mark C.; White, Jennifer
School of the Built Environment, Heriot-Watt University, United Kingdom

EEE0496: **Barriers to implement energy efficiency investment measures in Swedish co-operative apartment buildings**
Nair, Gireesh; Gustavsson, Leif; Mahapatra, Krushna
Department of Ecotechnology, Mid Sweden University, Sweden

EEE – M1

Friday 13 May, 09.20 – 10.40

CHAIRPERSON: LOUISE TRYGG, LINKÖPING UNIVERSITY, SWEDEN

EEE0317: **Performance of a cold storage air-conditioning system using tetrabutylammonium bromide clathrate hydrate slurry**
Ma, Z.W.; Zhang, P.; Wang, R.Z.
Institute of refrigeration and Cryogenics, Shanghai Jiao Tong University, China

EEE0906: **Latin-American buildings energy efficiency policy: the case of Chile**
Palme, Massimo; Guerra, José; Isalgué, Antoni; Coch, Helena; Albano, Leônidas
Escuela Arquitectura, Universidad Católica del Norte, Chile

EEE0341: **Understanding occupant heating practices in UK dwellings**
Kanea, T.; Firth, S.K.; Allinson, D.; Irvine, K.N.; Lomas, K.J.
Civil and Building Engineering, Loughborough University, United Kingdom

Fuel Cells (FC)

FC – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: PER ALVFORS, ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

FC0352: **Beyond the simplicity: optimizing the hydrogen production process**
Pampin, Miguel A. Bernal; Cristóbal Andrade, Laura; Bello Bugallo, Pastora M.
Chemical Engineering, University Of Santiago De Compostela, Spain

FC0522: **Nanostructured Semiconductor photoelectrochemical solar cell for Hydrogen production**
Tripathi, Mridula; Upadhyay, Ruby; Datt Kumar, Shiv
Department of Chemistry, CMP College, Allahabad, India

FC0040: **Solar hydrogen generation using copper-nickel bimetallic photocatalyst**
Dutta, Binay K; Nurlaela, Ela; Chong, F.K.; Riaz, Nadia
Department of Chemical Engineering, The Petroleum Institute, United Arab Emirates

FC – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: PER ALVFORS, ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

FC0335: **The effect of a boron oxide layer on hydrogen production by boron hydrolysis**
Hamed, Tareq Abu; Wahbeh, Bara; Kasher, Roni
Ben Gurion University, Israel

FC0533: **Case study: Technical assessment of the efficiency optimization in direct connected PV-Electrolysis system at Taleghan-Iran**
Shiroudi, Abolfazl; Taklimi, Seyed Reza Hosseini; Jafari, Nilofar
Energy and Environment Engineering, Linkoping University, Sweden

FC0186: **Demonstration project of the solar hydrogen energy system located on Taleghan-Iran: Technical-economic assessments**
Shiroudi, Abolfazl; Taklimi, Seyed Reza Hosseini
Energy and Environment Engineering, Linkoping University, Sweden

FC0980: **Two Dimensional PEM Fuel Cell Modeling at Different Operation Voltages**
Ameri, Mohammad; Oroojie, Pooria
Energy & Mechanical Engineering, Power & Water University of Technology, Iran

FC – K1

Thursday 12 May, 14.10 – 15.30

CHAIRPERSON: PER ALVFORS, ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

FC1042: **Effect of type and concentration of substrate on power generation in a dual chambered microbial fuel cell**
Ghoreyshi, A.A.; Jafary, T.; Najafpour, G.D.; Haghparast, F.
Department of Chemical Engineering, Babol University of Technology, Iran

FC0935: **Bioelectricity power generation from organic substrate in a Microbial fuel cell using Saccharomyces cerevisiae as biocatalysts**
Jafary, T.; Najafpour, G.D.; Ghoreyshi, A.A.; Haghparast, F.; Rahimnejad, M.; Zare, H.
Department of Chemical Engineering, Noshirvani University of Technology, Iran

FC0760: **Performance and economics of low cost clay cylinder microbial fuel cell for wastewater treatment**
Satyam B, Siva Rama; Behera, Manaswini; Ghangrekar, Makarand M.
Department of Civil Engineering, Indian Institute of Technology Kharagpur, India

FC0519: **Development of laccase and manganese peroxidase biocathodes for microbial fuel cell applications**
Bakhshian, Sahar; Kariminia, Hamid-Reza
Chemical and Petroleum Engineering, Sharif University of Technology, Iran

FC – L1

Thursday 12 May, 15.50 – 17.10
CHAIRPERSON: PER ALVFORS, ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

FC0623: **Numerical Studies of PEM Fuel Cell with Serpentine Flow-Field for Sustainable Energy Use**
Jang, Sang-Hoon; Shin, GiSoo; Hwang, Hana; Choi, Kap-Seung; Kim, Hyung-Man
INJE University, Korea

FC0952: **Comparison of three anode channel configurations and their effects on DMFC performance**
Khoshmanesh, S.SH.; Bordbar, S.
Islamic Azad University, Iran

FC0631: **Investigation of electrical, structural and thermal stability properties of cubic $(Bi_2O_3)_{1-x-y}(Dy_2O_3)_x(Ho_2O_3)_y$ ternary system**
Kayali, Refik; Kasikci, Murivet; Durmus, Semra; Ari, Mehmet
Department of Physics, Nigde University, Turkey

FC0264: **Alkaline Fuel Cell (AFC) engineering design, modeling and simulation for UPS provide in laboratory application**
Ariyanfar, L.; Ghadamian, H.; Roshandel, R.
Islamic Azad University, Science and Research Camp

Geothermal Applications (GA)

GA – B1

Monday 9 May, 16.10 – 17.50
CHAIRPERSON: GUDNI JOHANNESON, NATIONAL ENERGY AUTHORITY, ICELAND

GA0059: **Energetic performance evaluation of an earth to air heat exchanger system for agricultural building heating**
Ozgener, Onder; Ozgener, Leyla
Solar Energy Institute, Ege University, Turkey

GA0193: **An adaptive design approach for a geothermal plant with changing resource characteristics**
Sohel, M. Imroz; Sellier, Mathieu; Krumdieck, Susan
Green Processing, Scion, New Zealand

GA0548: **Managing Sustainable Design for Geothermal Plants: the Engineer's Perspective**
Chin, Chun; Gunderson, Joshua; Stippel, Joe; Fishman, Matt; Saevarsdottir, Gudrun; Harvey, William
Mechanical Engineering, Reykjavik University, USA

GA0650: **Numerical simulation of Northwest Sabalan geothermal reservoir, Iran**
Noorollahi, Younes; Itoi, Ryuichi
Dep. of Environmental and Energy, Sciences and Reaserch University, IAU, Iran

GA0804: **Utilisation of hydro-geothermal energy by use of heat pumps in Serbia – current state and perspectives**
Milenic, Dejan; Vranjes, Ana
Dapartment of Hydrogeology, Faculty of Mining and Geology, Serbia

GA – D1

Tuesday 10 May, 10.40 – 12.00
CHAIRPERSON: FLORIAN HEBERLE, UNIVERSITÄT BAYREUTH, GERMANY

GA0420: **Geothermal Energy Utilization in the United States of America**
Lund, J.
Geothermal Program, National Renewable Energy Laboratory, USA

GA0570: **Performance Analysis of a Hybrid Solar-Geothermal Power Plant in Northern Chile**
Mir, Ignacio; Escobar, Rodrigo; Vergara, Julio; Bertrand, Julio
Mechanical Engineering, Pontificia Universidad católica de Chile, Chile

GA0834: **Potential use of geothermal energy sources for the production of lithium-ion batteries**
Tao, Pai-chun; Stefansson, Hlynur; Harvey, William; Saevarsdottir, Gudrun
Mechanical Engineering, Reykjavik University, USA

GA0892: **Energy and exergy analysis and optimization of a double flash power plant for Meshkin Shahr region**
Ameri, Mohammad; Amanpour, Saman; Amanpour, Saeid
Energy & Mechanical Engineering, Power & Water University of Technology, Iran

GA – E1

Tuesday 10 May, 14.10 – 15.30
CHAIRPERSON: WILLIAM SCOTT HARVEY, REYKJAVIK UNIVERSITY, ICELAND

GA0047: **Thermoeconomic evaluation of combined heat and power generation for geothermal applications**
Heberle, Florian; Preißinger, Markus; Brüggemann, Dieter
Lehrstuhl für Technische Thermodynamik, University of Bayreuth, Germany

GA0362: **Energy supply in buildings: heat pump and micro-cogeneration**
Martínez, Marta Galera; Cristóbal Andrade, Laura; Bello Bugallo, Pastora M.; Bao Iglesias, Manuel
Chemical Engineering, University Of Santiago De Compostela, Spain

GA0805: **Study on the performance of air conditioning system combining heat pipe and vapor compression based on ground source energy-bus for commercial buildings in north China**
Gao, Yijun; Wu, Wei; Han, Zongwei; Li, Xianting
Tsinghua University, China

GA0996: **Economic performance of ground source heat pump: does it pay off?**
Gabrielli, Laura; Bottarelli, Michele
Architecture, University Of Ferrara, Italy

GA – F1

Tuesday 10 May, 15.50 – 17.30
CHAIRPERSON: GUDNI JOHANNESON, NATIONAL ENERGY AUTHORITY, ICELAND

GA0405: **Comparing Geothermal Heat Pump System with Natural Gas Heating System**
Acikkalp, Emin; Aras, Haydar
Department of Mechanical and Manufacturing, Bilecik University, Faculty of Engineering, Turkey

GA0560: **Optimization of a Hybrid Ground Source Heat Pump using the Response Surface Method**
Park, Honghee; Kim, Wonuk; Lee, Joo Seoung; Kim, Yongchan
Graduate School of Mechanical Engineering, Korea University, Korea

GA0767: **Experimental ground source heat pump system to investigate heat transfer in soil**
Demir, Hakan; Atayilmaz, S. Özgür; Agra, Özden
Mechanical Engineering, Yildiz Technical University, Turkey

GA0832: **Influence of Undisturbed Ground Temperature and Geothermal Gradient on the Sizing of Borehole Heat Exchangers**

Kurevija, Tomislav; Vulin, Domagoj; Krapec, Vedrana
Petroleum engineering, Faculty of petroleum engineering, Croatia

GA0939: **Utilization of geothermal heat pumps in residential buildings for GHGs emission reduction**
Atabi, Farideh; Heibati, Seyed Mohammad Reza; Rasouli, Arash; Poursaeed, Ali
Graduate School of Enegy and Environment, Science and Research Branch, IAU, Iran

Hydropower Applications (HP)

HP – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: ARTHUR WILLIAMS, UNIVERSITY OF NOTTINGHAM, UNITED KINGDOM

HP0304: **Low Head Pico Hydro Turbine Selection using a Multi-Criteria Analysis**
Williamson, S.J.; Stark, B.H.; Booker, J.D.
Department of Electrical & Electronic Engineering, University of Bristol, United Kingdom

HP0414: **Small scale hydropower: generator analysis and optimization for water supply systems**
Caxaria, Guilherme A.; de Mesquita e Sousa, Duarte; Ramos, Helena M.
Department of Civil Engineering, Instituto Superior Técnico, Portugal

HP0809: **Performance evaluation of cross-flow turbine for low head application**
Ho-Yan, Bryan; Lubitz, W. David
Department of Engineering, University of Guelph, Canada

HP – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: HELENA M RAMOS, INSTITUTO SUPERIOR TÉCNICO, PORTUGAL

HP0080: **Water supply lines as a source of small hydropower in Turkey: A Case study in Edremit**
Kucukali, S.
Department of Civil Engineering, Çankaya University, Turkey

HP00110: **Concept-H: Sustainable Energy Supply**
Margeta, Jure; Glasnovic, Zvonimir
Faculty of Chemical Engineering and Technology, University of Zagreb, Croatia

HP0973: **Environmentally compatible hydropower potential in the estuary of the river Ems - Analysis for a floating energy converter**
Dimke, Steffi; Weichbrodt, Frank; Froehle, Peter
Coastal Engineering Group, University of Rostock, Germany

HP – K1

Thursday 12 May, 14.10 – 15.10

CHAIRPERSON: ARTHUR WILLIAMS, UNIVERSITY OF NOTTINGHAM, UNITED KINGDOM

HP0082: **Investigation on Effect of Aged Pumped-Storaged Component Replacement on Economic Profits Considering Reliability and Economic Efficiency**
Kim, Jong Sung
Department of Mechanical Engineering, Sunchon Nationl Univeristy, Korea

HP0311: **Risk assessment of river-type hydropower plants by using fuzzy logic approach**
Kucukali, S.
Department of Civil Engineering, Çankaya University, Turkey

HP0451: **Pump as turbine: dynamic effects in small hydro**
Morgado, Pedro A.; Ramos, Helena M.
Department of Civil Engineering, Instituto Superior Técnico, Portugal

HP – M1

Friday 13 May, 09.20 – 10.40

CHAIRPERSON: HELENA M RAMOS, INSTITUTO SUPERIOR TÉCNICO, PORTUGAL

HP0429: **Acoustic impact of an urban micro hydro scheme**
Johnson, Neil; Kang, Jian; Sharples, Steve; Hathway, Abigail; Dökmeci, Papatya
Department of Architecture & Civil Eng, University of Sheffield, United Kingdom

HP0431: **A Piezoelectric Energy Harvester Based on Pressure Fluctuations in Kármán Vortex Street**
Wang, Dung-An; Pham, Huy-Tuan; Chao, Chia-Wei; Chen Jerry M.
National Chung Hsing University, Taiwan

HP0530: **Low head hydropower – its design and economic potential**
Hadler, Jana; Broekel, Klaus
Intitute of Engineering Design, University of Rostock, Germany

HP0902: **On the Large Scale Assessment of Small Hydroelectric Potential: Application to the Province of New Brunswick (Canada)**
Cyr, Jean-François; Landry, Mathieu; Gagnon, Yves
Universite de Moncton, Canada

Industrial Energy Efficiency (IEE)

IEE – A1

Monday 9 May, 14.10 – 15.50

CHAIRPERSON: SIMON HARVEY, CHALMERS UNIVERSITY OF TECHNOLOGY, SWEDEN

IEE0342: **The effect of long lead times for planning of energy efficiency and biorefinery technologies at a pulp mill**
Svensson, Elin; Berntsson, Thore
Department of Energy and Environment, Chalmers University of Technology, Sweden

IEE0366: **Energy use project and conversion efficiency analysis on biogas produced in breweries**
Li, Yingjian; Qiu, Qi; He, Xiangzhu; Li, Jiezhi
College of Chemistry and Chemical Engineering, Shenzhen University, China

IEE0483: **Thermoeconomic optimization of absorption chiller cycle**
Mashayekh, H.; Salehi, G.R.; Taghdiri, E.; Hamedi, M.H.
Department of Mechanical Engneering, Islamic Azad University, Iran

IEE0550: **Simulation and optimization of steam generation in a pulp and paper mill**
Ji, Xiaoyan; Lundgren, Joakim; Wang, Chuan; Dahl, Jan; Grip, Carl-Erik
Division of Energy Engineering, Luleå University of Technology, Sweden

IEE1213: **A simplified energy management system towards increased energy efficiency in SMEs**
Hrustic, Adnan; Sommarin, Per; Thollander, Patrik; Söderström, Mats
Scania, Sweden

IEE – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: SIMON HARVEY, CHALMERS UNIVERSITY OF TECHNOLOGY, SWEDEN

IEE0053: **Pinch Analysis of a Partly Integrated Pulp and Paper Mill**
Svensson, Elin; Harvey, Simon
Department of Energy and Environment, Chalmers University of Technology, Sweden

IEE0286: **Power Yield Processes: Modeling, Simulation and Optimization**
Kuran, P.; Sieniutycz, S.
Chemical and Process Engineering, Politechnika Warszawska, Poland

IEE0704: **Application of oxygen enrichment in hot stoves and its potential influences on the energy system at an integrated steel plant**

Wang, Chuan; Karlsson, Jonny; Hooey, Lawrence; Boden, Axel
Process Metallurgy, Swerea MEFOS, Sweden

IEE0766: **Economical analysis of a chemical heat pump system for waste heat recovery**
Demir, Hakan; Agra, Özden; Atayilmaz, S. Özgür
Yildiz Technical University, Turkey

IEE0842: **Avoiding loss of energy in a petrochemical industry, operation and design**
Ávila, S.; Kiperstok, A.; Braga, B.; Kalid, R.
Industrial Engineering Program, UFBA/ TECLIM, Brazil

IEE01024: **Integration of biogas plants in the building materials industry**
Ellersdorfer, M.; Weiss, C.
Institute for Process Technology, Mining University Leoben, Austria

IEE – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: SIMON HARVEY, CHALMERS UNIVERSITY OF TECHNOLOGY, SWEDEN

IEE0508: **Improvement of energy utilization in natural gas liquid plant through using self-refrigeration system**
Farzaneh, H.; Abbasgholi, B.
Department of Energy Engineering, Azad University, Science and Research Branch, Iran

IEE0544: **Analysis of optimal application for exhaust gas in thermal oxidizers with case studies**
Hamedi, Naser; Abadi, Arzhang; Jajarmi, Ramin Imani
Department of Engineering and Management, Linkoping University, Sweden

IEE0666: **Evaluation of repowering in a gas fired steam power plant based on exergy and exergoeconomic analysis**
Baghestani, Mohammad; Ziabasharhagh, Masoud; Maneshr, Mohammad Hasan Khoshgoftar
Department of Mechanical Engineering, K. N. Toosi Univ. of Tech., Iran

IEE – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: SIMON HARVEY, CHALMERS UNIVERSITY OF TECHNOLOGY, SWEDEN

IEE0241: **An Inquiry into the Sources of Change in Industrial Energy Use in the Japanese Economy: Multiple Calibration Decomposition Analysis**
Tamura, Makoto; Okushima, Shinichiro
ICAS, Ibaraki University, Japan

IEE0262: **Simulation of energy recovery system for power generation form coal bed gas of Tabas coal mine of Iran**
Farzaneh, H.; Fahimi, M.
Department of Energy Engineering, Azad University, Science and Research Branch, Iran

IEE0298: **Possibilities and problems in using exergy expressions in process integration**
Grip, Carl-Erik; Elfgren, Erik; Söderström, Mats; Thollander, Patrik; Berntsson, Thore; Åsblad, Anders; Wang, Chuan
Energy Technology, LTU (Luleå University of Technology), Sweden

IEE01037: **Exergy Analysis applied to a Mexican flavor industry that uses liquefied petroleum gas as a primary energy source**
Burgos-Madrigal, P.; Gómez, V.H.; Best, R.
Centro de Investigación en Energía, Universidad Nacional Autónoma de México, Mexico

IEE – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: PATRIK THOLLANDER, LINKÖPING UNIVERSITY, SWEDEN

IEE0151: **Development of a tool for the evaluation and improvement of the energy management in small and medium enterprises (SMEs)**
Morales, I.; Jiménez, J.P.
Instituto Andaluz de Tecnología, Spain

IEE0248: **"Uncovering Industrial Symbiosis in Sweden" -exploring a possible approach**
Persson, Sofia; Ivner, Jenny
Environmental Technology and Environment, Linköping University, Sweden

IEE1209: **Towards increased energy efficiency in industry – a manager's perspective**
Johansson, Per-Erik; Thollander, Patrik; Moshfegh, Bahram
DynaMate Industrial Services AB, Sweden

IEE0664: **Comparison of repowering by STIG combined cycle and full repowering based on exergy and exergoeconomic analysis**
Baghestani, Mohammad; Ziabasharhagh, Masoud; Maneshr, Mohammad Hasan Khoshgoftar
Department of Mechanical Engineering, K.N. Toosi Univ. of Tech., Iran

IEE – F1

Tuesday 10 May, 15.50 – 17.50

CHAIRPERSON: PATRIK THOLLANDER, LINKÖPING UNIVERSITY, SWEDEN

IEE0075: **Possibilities to implement pinch analysis in the steel industry – a case study at SSAB EMEA in Luleå**
Isaksson, Johan; Harvey, Simon; Grip, Carl-Erik; Karlsson, Jonny
Department of Energy and Environment, Chalmers University of Technology, Sweden

IEE0134: **Energy efficient dual command cycles in Automated Storage and Retrieval Systems**
Meneghetti, Antonella; Monti, Luca
DIEGM, University of Udine, Italy

IEE0283: **Energy system optimization for a scrap based steel plant using mixed integer linear programming**
Riesbeck, Johan; Lingebrant, Philip; Sandberg, Erik; Wang, Chuan
Höganäs AB, Sweden

IEE0732: **Environmental system effects when including scrap preheating and surface cleaning in steel making routes**
Östman, Marianne; Lundkvist, Katarina; Larsson, Mikael
Swerea MEFOS, Sweden

IEE01075: **Potential of fossil and renewable CHP technology to reduce CO_2 emissions in the German industry sector**
Klobasa, Marian; Toro, Felipe; Idrissova, Farikha; Reitze, Felix
Energiepolitik und Energiesysteme, Fraunhofer-ISI, Germany

IEE1224: **Energy efficiency opportunities within the powder coating industry**
Osbeck, Sofie; Bergek, Charlotte; Klässbo, Anders; Thollander, Patrik; Harvey, Simon; Rohdin, Patrik
Process Development, Swerea IVF AB, Sweden

IEE – M1

Friday 13 May, 09.20 – 11.00

CHAIRPERSON: LARS J NILSSON, LUND UNIVERSITY, SWEDEN

IEE0054: **Applying process integration methods to target for electricity production from industrial waste heat using Organic Rankine Cycle (ORC) technology**
Hackl, Roman; Harvey, Simon
Department of Energy and Environment, Chalmers University of Technology, Sweden

IEE0477: **Modeling SOFC & GT Integrated-Cycle Power System with Energy Consumption Minimizing Target to Improve Comprehensive cycle Performance (Applied in pulp and paper, case studied)**
Ozgoli, H.A.; Ghadamian, H.; Andriazian, N.
Energy Engineering Department, Islamic Azad University, Science and Research Camp, Iran

IEE0549: **Studies of preferences as an extra dimension in system studies**
Alriksson, Stina; Grip, Carl-Erik
Shool of natural science, Linnaeus University, Sweden

IEE0594: **Case Study and Analysis of the Production Processes in a Steel Factory in Jordan**
Al Asfar, Jamil J.; Salim, Ashraf
Mechanical Engineering Derpartment, The University of Jordan, Jordan

IEE0723: **Thermal cooling basin exploration for thermal calculations**
Shipkovs, Peteris; Grinbergs, Kaspars
Heat, Gas and Water Technology institute, Riga Technical university, Latvia

Low-Energy Architecture (LEA)

LEA – A1

Monday 9 May, 14.10 – 15.30

CHAIRPERSON: HAZIM AWBI, UNIVERSITY OF READING, UNITED KINGDOM

LEA0079: **Earthen buildings for a low-cost high-energy performance social housing**
Liuzzi, Stefania; Stefanizzi, Pietro
Dipartimetno di Architettura e Urbanistica, Politecnico di Bari, Italy

LEA0109: **Energy performance of residential buildings and their architectural configuration**
Erlalelitepe, Ilknur; Evren Ekmen, Kenan; Turhan, Cihan; Akdemir, Manolya; Gökcen Akkurt, Gülden; Kazanasmaz, Tugce
Department of Architecture, Izmir Institute of Technology, Turkey

LEA0434: **Existing buildings – users, renovations and policy**
Gram-Hanssen, Kirsten
Danish Building Research Institute, Aalborg University, Denmark

LEA0515: **An energy-autonomous home in Melbourne – myth or reality?**
Fuller, R.J.; Loersch, S.J.
School Of Architecture and Building, Deakin University, Australia

LEA – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: FREDRIK KARLSSON, SWECO SYSTEMS AB, SWEDEN

LEA0460: **Feasibility study on using solar chimney and earth-to-air heat exchanger for natural heating of buildings**
Haghighi Poshtiri, Amin; Gilani, Neda; Zamiri, Farshad
Department of Chemical Engineering, Tarbiat Modarres University, Iran

LEA0532: **Case study on the whole life carbon cycle in buildings**
Darby, Howard J.; Elmualim, Abbas A.; Kelly, Fergal
Technologies for Sustainable Built Environments, University of Reading, United Kingdom

LEA0720: **From a passive to an active house**
Isaksson, Charlotta
University West, Sweden

LEA0744: **Numerical simulation of a PCM shutter for buildings space heating during the winter**
Soares, N.; Samagaio, A.; Vicente, R.; Costa, J.
Department of Environment and Planning, University of Aveiro, Portugal

LEA0823: **Considering users' factors in sustainable building refurbishment projects**
Agha-Hossein, M.; Elmualim, A.; Williams, M.; Kluth, A.
Halcrow/ University of Reading, United Kingdom

LEA0824: **Environmental impact of optimum insulation thickness in buildings**
Agra, Özden; Atayilmaz, S.Özgür; Demir, Hakan; Teke, Ismail
Yildiz Technical University, Turkey

LEA – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: HAZIM AWBI, UNIVERSITY OF READING, UNITED KINGDOM

LEA0337: **Overheating risk evaluation of school classrooms**
Teli, Despoina; Jentsch, Mark F.; James, Patrick A.B.; Bahaj, AbuBakr S.
University of Southampton, United Kingdom

LEA1055: **Energy retrofit and indoor environmental requalification of existing school buildings. Method and tools for operating procedures**
Boarin, Paola; Davoli, Pietromaria
Architecture - Architettura Energia Research Centre, University of Ferrara, Italy

LEA1059: **Analysing the energy performance of secondary schools in N. Greece**
Vagi, F.; Dimoudi, A.
Dep. of Environmental Engineering, Democritus University of Thrace, Greece

LEA – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: ANDREAS JONSSON, UPPSALA UNIVERSITY, SWEDEN

LEA1003: **Optimal design of Net Zero Energy Buildings**
Hasan, Ala
Department of Energy Technology, Aalto University, Finland

LEA0190: **Experimental performance of unglazed transpired solar collector for air heating**
Chan, Hoy-Yen; Riffat, Saffa; Zhu, Jie
University of Nottingham, United Kingdom

LEA0615: **Improving thermal performance of offices in JUST using fixed shading devices**
Freewan, Ahmed A.Y.
Department of Architecture, Jordan University of Science and Technology, Jordan

LEA0746: **The Assessment of Advanced Daylighting Systems in Multi-Story Office Buildings Using a Dynamic Method**
Hu, Jianxin; Du, Jiangtao; Place, Wayne
North Carolina State University, College of Design, USA

LEA – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: EWA WÄCKELGÅRD, UPPSALA UNIVERSITY, SWEDEN

LEA0056: **Optimized Modular window as a sustainable and industrialized solution for indoor daylighting**
Oteiza, P.; Orozco, S.; Pérez, M.; Bedoya, C.; Neila, J.
UPM - Research group ABIO, Spain

LEA0162: **Volumetric – Spatial design and daylight in apartment buildings. Study case: Havana City.**
González Couret, D.; Abreu de la Rosa, D.F.
ISPJAE, Cuba

LEA0196: **Modeling of Skylight on Dome Shaped Roof of Low Energy Adobe House Located in New Delhi (India)**
Chel, Arvind; Tiwari, G.N.
Center for Energy Studies, Indian Institute of Technology Delhi, India

LEA1054: **Double layer glass façade in the refurbishment and architectural renewal of existing buildings in Italy**
Brunoro, Silvia; Rinaldi, Andrea
Department of Architecture, University of Ferrara, Italy

LEA – F1

Tuesday 10 May, 15.50 – 17.30

CHAIRPERSON: MATS SANDBERG, UNIVERSITY OF GÄVLE, SWEDEN

LEA0178: **A model study of the daylight and energy performance of rooms adjoining an atrium well**
Du, Jiangtao; Sharples, Steve; Johnson, Neil
Architecture & Civil Eng, University of Sheffield, United Kingdom

LEA0112: **Numerical analysis on daylight transmission and thermal comfort in the environments containing devices called "Double Light Pipes"**
Boccia, O.; Chella, F.; Zazzini, P.
D.S.S.A.R.R., University «G. D"Annunzio», Italy

LEA0113: **Ventilated Illuminating Wall (VIW): Natural ventilation and daylight experimental analysis on a 1:1 prototype scale model**
Boccia, O.; Chella, F.; Zazzini, P.
D.S.S.A.R.R., University «G. D"Annunzio», Italy

LEA0114: **Ventilated Illuminating Wall (VIW): Natural ventilation numerical analysis and comparison with experimental results**
Boccia, O.; Chella, F.; Zazzini, P.
D.S.S.A.R.R., University «G. D"Annunzio», Italy

LEA0156: **Experimental and numerical study on the performance of solar walls in Mediterranean climates**
Stazi, Francesca; Mastrucci, Alessio; Di Perna, Costanzo
DACS, Università Politecnica delle Marche, Italy

LEA – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: TOR BROSTRÖM, GOTLAND UNIVERSITY, SWEDEN

LEA0108: **Thermal Performance Evaluation of Domed Roofs**
Faghih, Ahmadreza K.; Bahadori, Mehdi N.
Department of Mechanical Engineering, Yazd University, eng:IRN

LEA0163: **A study of single-sided ventilation and provision of balconies in the context of high-rise residential buildings**
Mohamed, M.F.; King, S.; Behnia, M.; Prasad, D.
Faculty of the Built Environment, The University of New South Wales, Australia

LEA0837: **Impact of ventilation heat recovery on primary energy use of apartment buildings built to conventional and passive house standard**
Gustavsson, Leif; Dodoo, Ambrose; Sathre, Roger
Mid Sweden University and Linnaeus University, Sweden

LEA – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: FREDRIK KARLSSON, SWECO SYSTEMS AB, SWEDEN

LEA0315: **Energy and comfort benefits of a cool roof application in a non-residential building belonging to Roma Tre University**
Carnielo, E.; Fanchiotti, A.; Zinzi, M.
Mechanical and Industrial Engineering, Universita degli Studi Roma Tre, Italy

LEA0466: **Study of green roof thermal behavior: effect on building energy performance**
Boukhitine, Salah-Eddine Ould; Jaffal, Issa; Belarbi, Rafik
Université de La Rochelle, France

LEA0851: **Solar reflectance performance of roof coverings in Istanbul, Turkey**
Kultur, Sinem; Turkeri, Nil
Department of Architecture, Bahçeþehir University, Turkey

LEA – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: HAZIM AWBI, UNIVERSITY OF READING, UNITED KINGDOM

LEA1225: **Hydrogen Economy and the Built Environment**
El Azzeh, S.; Sarshar, M.; Fayaz, R.
Institute of Energy and Sustainable Development, De Montfort University, United Kingdom

LEA0152: **Developing a probabilistic tool for assessing the risk of overheating in buildings for future climates**
Jenkins, David P.; Patidar, Sandhya; Banfill, Phil; Gibson, Gavin
School of the Built Environment, Heriot-Watt University, United Kingdom

LEA1020: **Energy Efficient Buildings with Functional Steel Cladding**
Joudi, M.A.; Rönnelid, M.; Svedung, H.; Wäckelgård, E.
Engineering Sciences, Uppsala University, Sweden

LEA – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: KIRSTEN GRAM-HANSSEN, AALBORG UNIVERSITY, DENMARK

LEA0143: **Energy Efficiency in Historic Buildings: a Tool for Analysing the Compatibility, Integration and Reversibility of Renewable Energy Technologies**
Lucchi, Elena
Politecnico di Milano, Italy

LEA0480: **Towards an objective assessment of energy efficiency in heritage buildings**
Ingram, V.; Banfill, P.F.G.; Kennedy, C.
School of the Built Environment, Heriot-Watt University, United Kingdom

LEA0609: **Climate control in historic buildings in Denmark**
Klenz Larsen, Poul; Broström, Tor
Culture, energy and environment, Gotland University, Sweden

LEA0836: **Solar energy and cultural-heritage values**
Broström, Tor; Svahnström, Karin
Culture, energy and environment, Gotland University, Sweden

LEA – K1

Thursday 12 May, 14.10 – 15.30

CHAIRPERSON: TOR BROSTRÖM, GOTLAND UNIVERSITY, SWEDEN

LEA0858: **Exergy analysis of different solutions for humidity control in heritage buildings**
Molinari, M.; Broström, T.
Department of Building Technology, KTH-The Royal Institute of Technology, Sweden

LEA0076: **New software for generation of typical meteorological year**
Ebrahimpour, Abdulsalam
Department of Mechanical engineering, Islamic Azad University, Iran

LEA0332: **Use of stochastic weather generators in the projection of building energy demand in a changing climate**
Williams, David R.S.; Elghali, Lucia; Wheeler, Russel C.
Department of Infrastructure, Parsons Brinckerhoff / University of Surrey, United Kingdom

LEA0534: **Daylighting, Daylight Simulation and Public Health: Low-Energy Lighting for Optimal Vision/ Visual Acuity and Health/Wellbeing**
Ellis, E.V.; Handly, N.B.; McEachron, D.L.; Del Risco, A.; Baynard, M.
Architecture + Interiors, Drexel University, USA

LEA – L1

Thursday 12 May, 15.50 – 18.10

CHAIRPERSON: TOR BROSTRÖM, GOTLAND UNIVERSITY, SWEDEN

LEA0745: **Simulations of comfort cooling strategies in Passive Houses in a Swedish climate**
Persson, J.; Westermark, M.
KTH, Sweden

LEA0813: **Theory versus practice of energy and comfort in 4 low energy houses in Belgium**
Verbeeck, Griet; Carmans, Werner; Martens, Veerle
Department of Architecture, PHL University College, Belgium

LEA0847: **Energy simulations on switchable mirrors – comparisons between three simulation tools**
Jonsson, Andreas; Roos, Arne; Yasusei, Yamada
Uppsala University, Sweden

LEA – M1

Friday 13 May, 09.20 – 10.20

CHAIRPERSON: MATS SANDBERG, UNIVERSITY OF GÄVLE, SWEDEN

LEA0584: **Rice-straw based cement brick microclimatic thermal impact assessment in Cairo, Egypt**
Akmal, Tamer; Fahmy, Mohammad; El-Kadi, Abdul-Wahab (presented by Elwan, Amr)
School of Architect, Sheffield University, United Kingdom

LEA0600: **Comparative survey on using two passive cooling systems, solar chimney- earth to air heat exchanger and solar chimney-evaporative cooling cavity**
Haghighi Poshtiri, Amin; Gilani, Neda; Zamiri, Farshad
Department of Chemical Engineering, Tarbiat Modarres University, Iran

LEA0894: **Experimental Study of Long-Wave Night Sky Radiation in Owerri, Nigeria for Passive Cooling Application**
Ogueke, N.V.; Onwuachu, C.C.; Anyanwu, E.E.
Mechanical Engineering Department, Federal University of Technology, Owerri, Nigeria

LEA – N1

Friday 13 May, 11.00 – 12.20

CHAIRPERSON: KIRSTEN GRAM-HANSSEN, AALBORG UNIVERSITY, DENMARK

LEA0357: **Design of a sustainable house including the requisites of the Spanish Regulation**
Abades Martínez, Luis; Martínez Pérez, Erika; Cristóbal Andrade, Laura; Bello Bugallo, Pastora M.
Chemical Engineering, University of Santiago de Compostela, Spain

LEA0853: **Carbon footprint of a 100-year old house: Case-study of improvements and implications for the UK housing stock.**
Williams, Arthur A.; Gillott, Mark
Dept. Electrical & Electronic Engineering, University of Nottingham, United Kingdom

Marine and Ocean Technology (MO)

MO – A1

Monday 9 May, 14.10 – 15.10

CHAIRPERSON: ABUBAKR S. BAHAJ, UNIVERSITY OF SOUTHAMPTON, UK

MO0297: **Assessment of a multi-cell fabric structure as an attenuating wave energy converter**
Hann, M.R.; Chaplin, J.R.; Farley, F.J.M.
Energy & climate Change division, University of Southampton, United Kingdom

MO0260: **The WaveCat© – Development of a new Wave Energy Converter**
Iglesias, Gregorio; Fernández, Hernán; Carballo, Rodrigo; Castro, Alberte; Taveira-Pinto, Francisco
Civil Eng., Univ. of Santiago de Compostela, Spain

MO0102: **Extreme Loads on the Mooring Lines and Survivability Mode for the Wave Dragon Wave Energy Converter**
Parmeggiani, S.; Kofoed, J. P.; Friis-Madsen, E.
Wave Dragon Ltd./Aalborg University, Italy

MO – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: TBA

MO0436: **Design of a 100 GWh wave energy plant**
Jayashankar, V.; Mala, K.; Kedarnath, S.; Jayaraj, J.; Omezhilan, U.; Krishna, V.
IIT Madras, India

MO0475: **The Wave Excitation Forces on a Floating Vertical Cylinder in Water of Infinite Depth**
Finnegan, William; Meere, Martin; Goggins, Jamie
Civil engineering, National University of Ireland, Galway, Ireland

MO0233: **2D numerical simulation of ocean waves**
Du, Qingjie; Leung, Dennis Y.C.
Mechanical Engineering, The University of Hong Kong, China

MO0991: **The potential of chemical-osmotic energy for renewable power generation**
Sharif, Adel O.; Merdaw, Ali. A.; Sanduk, Mohammed I.; Al-Aibi, Sami M.; Rahal, Zena
Department of Chemical & Process Eng. (J2), University of Surrey, United Kingdom

MO0904: **Ocean power conversion for electricity generation and desalinated water production**
Ferreira, Rafael; Estefen, Segen
Submarine Technology Laboratory, Universidade Federal do Rio de Janeiro, Brazil

MO0742: **Physical Investigation into an array of onshore OWCPs designed for water delivery**
Magagna, Davide; Stagonas, Dimitris; Muller, Gerald (presented by Galloway, Pascal)
University of Southampton, United Kingdom

MO – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: SIMON NEILL, BANGOR UNIVERSITY, UK

MO0645: **Preliminary design of the OWEL wave energy converter commercial demonstrator**
Leybourne, M.; Batten, W.; Bahaj, AbuBakr S.; Minns, N.; O'Nians, J.
Energy & climate Change division, University of Southampton, United Kingdom

MO0175: **Investigation of Wave Farm Electrical Network Configurations**
Sharkey, Fergus; Conlon, Michael; Gaughan, Kevin
Dublin Institute Of Technology, Ireland

MO0439: **Performance analysis of a floating power plant with a unidirectional turbine based power module**
Prasad, Dudhgaonkar; Kedarnath, S.; Biren, Pattanaik; Purnima, Jalihal; Jayashankar, V.
IIT Madras, India

MO – F1

Tuesday 10 May, 15.50 – 17.30

CHAIRPERSON: GREGORIO IGLESIAS, UNIV. OF SANTIAGO DE COMPOSTELA, SPAIN

MO0171: **Impact of tidal stream turbines on sand bank dynamics**
Neill, Simon P.; Jordan, James R.; Couch, Scott J.
School of Ocean Sciences, Bangor University, United Kingdom

MO0376: **Experimental and numerical results of rotor power and thrust of a tidal turbine operating at yaw and in waves**

Galloway, Pascal W.; Myers, Luke E.; Bahaj, AbuBakr S.
University of Southampton, United Kingdom

M00365: **Hydro-environmental Impact Assessment of the Significance of the Shape of Arrays of Tidal Stream Turbines**
Ahmadian, Reza; Falconer, Roger; Bockelmann-Evans, Bettina
School of Engineering, Cardiff University, United Kingdom

M00971: **Experimental investigation of the effects of the presence and operation of tidal turbine arrays in a split tidal channel**
Daly, Tim; Myers, Luke E.; Bahaj, AbuBakr S.
Energy & climate Change division, University of Southampton, United Kingdom

M00700: **The downstream wake response of marine current energy converters operating in shallow tidal flows**
Giles, Jack; Myers, Luke E.; Bahaj, AbuBakr S.; Shelmerdine, Bob
Energy & climate Change division, University of Southampton, United Kingdom

Policy Issues (PI)

PI – B1

Monday 9 May, 16.10 – 17.50

CHAIRPERSON: ELIAS HINCKLEY, GEORGETOWN UNIVERSITY, USA

PI0064: **Development of the Sustainable Technology Balance Sheet (STBS) – A generic method to assess the sustainability of renewable energy technologies**
Brent, Alan C; Peach, Wildri D; Stafford, William
Centre for Renewable and Sustainable Energy Studie, Stellenbosch University, South Africa

PI0326: **The SIMPLE methodology for supporting innovations in the field of renewable energy and energy efficiency**
Hjelm, Olof
Linköping University, Environmental Technology and Management, Sweden

PI0852: **Tools and mechanisms fostering EU GCC cooperation on Energy Efficiency**
Papadopoulou, A.; Doukas, H.; Karakosta, C.; Makarouni, I.; Ferroukhi, R.; Luciani, G.; Psarras, J.
ICCS/NTUA, Greece

PI0099: **The emerging bio-economy in Europe: Exploring the key governance challenges**
McCormick, K.
IIIEE, Lund University, Sweden

PI1142: **Tools for Sustainable Energy Engineering**
Wall, Göran
Culture, Energy & Environment, Gotland University, Sweden

PI – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: ALAN BRENT, STELLENBOSCH UNIVERSITY, SOUTH AFRICA

PI0718: **Policy intervention and technical change in mature industry: The Swedish pulp and paper industry and the biorefinery**
Karltorp, Kersti; Sandén, Björn A
Department of Energy and Environment, Chalmers University of Technology, Sweden

PI0148: **Incentive regulation of CHP performance**
Verbruggen, Aviel
University of Antwerp, Belgium

PI0626: **An optimization model for the integration of renewable technologies in power generation systems**
Poullikkas, Andreas
Electricity Authority of Cyprus, Cyprus

PI – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: ALAN BRENT, STELLENBOSCH UNIVERSITY, SOUTH AFRICA

PI0619: **U.S. Climate and Energy Policy: What Went Wrong, and What it Means for Global Renewable Energy Technology Development**
Hinckley, Elias
Kilpatrick Townsend, USA

PI0470: **Follow-up of local energy and climate strategies – A study of six small Swedish municipalities**
Ivner, Jenny; Gustafsson, Sara
Environmental Technolgy and Management, Linköping university, Sweden

PI0259: **Green Jobs? Economic impacts of renewable energy in Germany**
Lehr, Ulrike; Lutz, Christian
Department of Energy and Climate, Institute for Economic Structures Research (GWS), Germany

PI0948: **Cost and benefit of renewable energy in europe**
Krozer, Yoram
CSTM, University Twente, Netherlands

PI – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: LENA NEIJ, LUND UNIVERSITY, SWEDEN

PI0346: **Utilities' Business Models for Renewable Energy: Evidence from Germany**
Richter, Mario
Centre for Sustainability Management, University of Lüneburg, Germany

PI0358: **Energy Security Centres in support of the development of a comprehensive EU Energy Policy**
Nagy, K.; Körmendi, K.
MoD, Hungary

PI0711: **Diversity, security, and adaptability in energy systems: a comparative analysis of four countries in Asia**
Lo, Liang-huey
STPI, NARL, Taiwan

PI0974: **Applications of energy security assessment in Strategic Environmental Assessment**
Chen, Chi-Feng
Department of Natural Resources, Chinese Culture University, Taiwan

PI – F1

Tuesday 10 May, 15.50 – 18.10

CHAIRPERSON: THOMAS B. JOHANSSON, LUND UNIVERSITY, SWEDEN

PI0181: **Have to Re-examine Renewable Energy**
Yong, Chen; Haoran, Yuan
Guangzhou Branch Academy, Chinese Academy of Sciences, China

PI0441: **Evaluation and Analysis of Renewable Energy Sources Potential in Slovenia and its Compatibility Examination with Slovenian National Renewable Energy Action Plan**
Obrecht, Matevz; Denac, Matjaz; Furjan, Patricija; Delcnjak, Milena
University of Maribor, Slovenia

PI0185: **Regulation for Renewable Energy Development: Lessons from Sri Lanka Experience**
Wijayatunga, Priyantha D C
South Asia Department, Asian Development Bank, Philippines

PI0684: **Policy and Strategy aspects for Renewable Energy Sources use in Latvia**
Shipkovs, Peteris; Pelite, Uldis; Kashkarova, Galina; Lebedeva, Kristina; Migla, Lana; Shipkovs, Janis
Institute of Physical Energetics, Latvia

PI0910: **New and Renewable Energy Policies of Jeju Island in Korea**

Cheol Park, Youn; Seung Kim, Dong; Huh, Jong-Chul; Gil Kim, Young
Department of Mechanical Engineering, Jeju National University, Korea

P10967: **Renewable energy policies for electricity sector in Latin America**
Ruiz-Mendoza, Belizza; Sheinbaum-Pardo, Claudia
National Autonomous University of Mexico, Mexico

P10090: **Renewable energy policy in Turkey**
Kucukali, S.; Baris, K.
Department of Civil Engineering, Çankaya University, Turkey

PI – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: JENNY IVNER, LINKÖPING UNIVERSITY, SWEDEN

P10672: **Energy and sustainability: public perspectives on what are the issues, who should address them and how**
Di Ruggero, Olga
Policy Analysis, Delft University of Technology, Netherlands

P10737: **Performance of Jatropha biodiesel production and its environmental and socio-economic impacts – A case study in Southern India**
Axelsson, Lisa; Franzén, Maria; Ostwald, Madelene; Berndes, Göran; Ravindranath, N.H.
Centre for climate science and policy research, Linköping University, Sweden

P10472: **PURE – Public Understanding of Renewable Energy**
Broman, Lars; Kandpal, Tara C.
Strömstad Academy, Sweden

PI – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: ULRIKE LEHR, INSTITUTE FOR ECONOMIC STRUCTURES RESEARCH (GWS), GERMANY

P10355: **Drivers and barriers to rural electrification in Tanzania and Mozambique – grid extension, off-grid and renewable energy sources**
Ahlborg, Helene; Hammar, Linus
Environmental systems analysis, Chalmers University of Technology, Sweden

P10493: **Renewable energy policies implementation drivers and barriers for Abu Dhabi**
Mezher, Toufic; Dawelbait, Gihan; Abbas, Zeina
Engineering Systems and Management, Masdar Institute of Science and Technology, United Arab Emirates

P10831: **Barriers to and Drivers of the Adoption of Energy Crops by Swedish Farmers: An Empirical Study**
Jonsson, Anna C.; Ostwald, Madelene; Asplund, Therese; Wibeck, Victoria
Dep of Water and Environmental Studies, Centre for Climate Policy and Research, Sweden

PI – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: OLOF HJELM, LINKÖPING UNIVERSITY, SWEDEN

P10754: **Potential Renewable Bioenergy Production from Canadian Agriculture**
Liu, Tingting; McConkey, Brian; Smith, Stephen; MacGregor, Bob; Huffman, Ted
Semiarid Prairie Agricultural Research Centre, Agriculture and Agri-Food Canada, Canada

P10728: **The Chinese Grain for Green Program – assessing the sequestered carbon from the land reform**
Ostwald, Madelene; Moberg, Jesper; Persson, Martin; Xu, Jintao
Centre for climate science and policy research, Linköping University, Sweden

P10927: **Quantifying CO_2 emissions as a function of energy, economy and population indicators in the EU countries and Turkey**
Ertekin, Can; Alta, Deniz; Evrendilek, Fatih
Fac. of Agriculture, Dept. of Farm Machinery, Akdeniz University, Turkey

PI – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: LOUISE TRYGG, LINKÖPING UNIVERSITY, SWEDEN

P10024: **How would renewables fair if a return to planned electricity markets was introduced?**
Thomas, Stephen
Business School, University of Greenwich, United Kingdom

P11113: **Investment in Wind Power & Pumped Storage in a Real Options Model – A Policy Analysis**
Reuter, Wolf-Heinrich; Fuss, Sabine; Szolgayová, Jana; Obersteiner, Michael
Ecosystems Services and Management, IIASA, Austria

P10258: **Grid-Connected Renewable Energy in China: Policies and Institutions in a Socialist Market Economy**
García, Clara
Complutense University of Madrid, Spain

P10257: **Policies and Institutions for Grid-Connected Renewable Energy: "Best Practice" vs. the Case of China**
García, Clara
Complutense University of Madrid, Spain

PI – K1

Thursday 12 May, 14.10 – 15.30

CHAIRPERSON: OLOF HJELM, LINKÖPING UNIVERSITY, SWEDEN

P10084: **Expansion of the Swedish Elcert certificates system to the Netherlands: a cost-benefit analysis**
Jansen, Jaap C.; Lensink, Sander M.; van der Welle, Adriaan J.
Policy studies, ECN, Netherlands

P10972: **Proposal of a framework for the selection of renewable energy technology systems in Africa**
Barry, Marie-Louise; Steyn, Herman; Brent, Alan
Graduate School of Technology Management, University of Pretoria, South Africa

P10083: **Biofuel sustainability: relationships between the directive 2009/28/EC and scientific research**
Spreafico, Luca; Peri, Massimo
Dep of agricultural, food and env. economics, Università degli Studi di Milano, Italy

P10349: **Which factors affect the willingness of tourists to pay for renewable energy?**
Kostakis, I.; Sardianou, E.
Home Economics and Ecology, Harokopio University, Greece

PI – L1

Thursday 12 May, 15.50 – 18.10

CHAIRPERSON: STEPHEN THOMAS, UNIVERSITY OF GREENWICH, UNITED KINGDOM

P10074: **A dynamic hypothesis for developing energy-efficiency technologies in housing industry**
Motawa, Ibrahim A.; Banfill, Phil F.
School of the Built Environment, Heriot-Watt University, United Kingdom

P10325: **Swedish building policy and the manufacturers of single-family houses in the county of Dalarna. A collaboration for the future goal of the improvement of energy efficiency?**
Perman, K.
School of Technology and Business Studies, Dalarna university, Sweden

P10191: **Promoting renewable energy and energy efficiency in Central Africa: Cameroon case study**

Kenfack, Joseph; Fogue, Médard; Hamandjoda, Oumarou; Tamo Tatietse, Thomas
Mechanical and Industrial Engineering, National Advanced School of Engineering, Cameroon

PI0965: **The impact of the GB Feed-in Tariffs and Renewable Heat Incentive to the economics of various microgeneration technologies at the street level**
Papafragkou, A.; James, P.A.B; Bahaj, A.S.
University of Southampton, United Kingdom

PI0036: **The Parameters used in Multiple Criteria Decision Making Methodologies for Drafting out Renewable Energy Sources Support Schemes**
Theodorou, Savvas C.; Florides, Georgios; A. Tassou, Savvas
Mechanical Engineering and Materials Science, Cyprus University of Technology, Cyprus

PI0610: **Windpower contribution to sustainable development in Brazil**
Simas, Moana; Pacca, Sergio
University of Sao Paulo, Brazil

PI0321: **Wind Electricity Generation in Three States of India: Policies and Status**
Thyageswaran, Sridhar
Department of Mechanical Engineering, Coimbatore Institute of Technology, India

PI – M1

Friday 13 May, 09.20 – 10.40

CHAIRPERSON: THOMAS B. JOHANSSON, LUND UNIVERSITY, SWEDEN

PI0777: **Managing renewable energy technology: diffusion and adoption of renewable energy technologies in Nigeria**
Bada, Hakeem A.
Department of Industrial Management, University of Vaasa, Finland

PI0601: **Shifting the policy paradigm of solar photovoltaic and other renewable energy technologies supply in rural Ghana**
Bawakyillenuo, Simon
University Of Ghana, Ghana

PI0232: **Measures to Promote Adoption of Residential Photovoltaic Systems**
Yamamoto, Yoshihiro
Takasaki City University of Economics, Japan

PI0878: **The new course of FITs mechanism for PV systems in Italy: novelties, strong points and criticalities**
Favuzza, Salvatore; Zizzo, Gaetano
DIEET, Università di Palermo, Italy

PI – N1

Friday 13 May, 11.00 – 12.20

CHAIRPERSON: THOMAS B. JOHANSSON, LUND UNIVERSITY, SWEDEN

PI0897: **Technical feasibility of integration of renewable energies in the EU**
Szabo, Marta
Renewable Energy Unit, European Commission, DG JRC, Institute of Energy, Italy

PI0350: **Channelling Norwegian hydropower towards greener currents: The challenge of conflicting environmental concerns?**
Ruud, Audun; Egeland, Helene; Jacobsen, Gerd B.; Knudsen, Jørgen K.; Lafferty, William M.
Energy Systems - Policy and Governance, SINTEF Energy Research, Norway

PI0792: **Small Hydropower Development and Legal Limitations in Thailand**
Supriyasilp, Thanaporn; Pongput, Kobkiat; Robkob, Challenge
Chiang Mai University, Thailand

PI0062: **Reducing our emissions while achieving good status of our water bodies – is it possible? Swedish hydropower in the limelight**
Rudberg, Peter M.; Nilsson, Måns
Stockholm Environment Institute, Sweden

Photovoltaic Technology (PV)

PV – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: MICHAEL G. DEBIJE, EINDHOVEN UNIVERSITY OF TECHNOLOGY, THE NETHERLANDS

PV0115: **Impacts of CO_2 emission constraints on penetration of solar PV in the Bangladesh power sector**
Mondal, Md. Alam Hossain
Energy Institute, Bangladesh Atomic Energy Commission, Bangladesh

PV0166: **Comparing push and pull measures for PV and wind in Europe**
Laleman, Ruben; Albrecht, Johan
General Economics, Ghent University, Belgium

PV0438: **Combined solar power and TPV**
Dahlquist, Erik; Karlsson, Björn; Lindberg, Eva
Mälardalen University, Sweden

PV0641: **Comparative Performance of Various PV Technologies in Different Italian Locations**
Colli, A.; Marzoli, M.; Zaaiman, W.; Guastella, S.; Sparber, W.
Institute for Renewable Energy, EURAC Research, Italy

PV1029: **An investigation of the impact of time of generation on carbon savings from PV systems in Great Britain.**
Burgess, P.A.; Vahdati, M.M.; Davies, D.
TSBE Centre, University of Reading, United Kingdom

PV1095: **Concentrator photovoltaic technologies and market: a critical review**
Mokri, Alaeddine; Emziane, Mahieddine
Materials Science and Eng., Masdar Institute, United Arab Emirates

PV – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: LARRY KAZMERSKI, NATIONAL RENEWABLE ENERGY LABORATORY, USA

PV0169: **Environmental impacts of large-scale grid-connected ground-mounted PV installations**
Beylot., Antoine; Payet, Jérome; Puech, Clément; Adra, Nadine; Jacquin, Philippe; Blanc, Isabelle; Beloin-Saint-Pierre, Didier
R&D and International Department, Transenergie, France

PV0618: **Progress in Luminescent Solar Concentrator Research: Solar Energy for the Built Environment**
Verbunt, Paul P.C.; Debije, Michael G.
Chemical Engineering & Chemistry, Eindhoven University of Technology, Netherlands

PV1179: **Design and simulation of a PV and a PV-Wind standalone energy system: A case study for a household application in Nicosia, Cyprus**
Panayiotou, Gregoris; Kalogirou, Soteris; Tassou, Savvas
Cyprus University of Technology, Cyprus

PV – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: GERRIT BOSCHLOO, UPPSALA UNIVERSITY, SWEDEN

PV0657: **High Efficiency Multijunction Tandem Solar Cells with Embedded Short-Period Superlattices**
Varonides, Argyrios C.
PHYS/EE, University of Scranton, USA

PV0816: **Simulations of Implantation Temperature Impact on Three-dimensional Texturing in Silicon Solar Cells**

Jahanshah, F.; Sopian, K.; Zaidi, S.H.; Gholipour, E.
Renewable Energy, Isfahan High Education & Research Institute, Iran

PV0988: **Development and new application of single-crystal silicon solar cells**
Khrypunov, G.S.; Kopach, V.R.; Kirichenko, M.V.; Zaitsev, R.V.
Materials for Electronics and Solar Cells, National Technical University "Kharkiv Polytechnic, Ukraine

PV1025: **Improvement of solar cells efficiency and radiation stability by deposition of diamond-like carbon films**
Klyui, Nickolai I.; Lukyanov, Anatoliy N.; Makarov, Anatoliy V.; Lozinskii, Volodymyr B.; Khrypunov, Gennadiy S.; Klyui, Andriy N.
Non-traditional and renewable energy sources, V. Lashkarev Institute of Semiconductor Physics NA, Ukraine

PV – F1

Tuesday 10 May, 15.50 – 17.50

CHAIRPERSON: ARGYRIOS VARONIDES, UNIVERSITY OF SCRANTON, USA

PV0266: **Formation of transparent and ohmic nanostructure thin films of fluorine-doped indium oxide prepared by spray**
Rozati, S.M.; Bargbidi, Z.
Department of Physics, University of Guilan, Iran

PV0392: **Research and development of dye-sensitized solar cells in the Center for Molecular Devices: from molecules to modules**
Boschloo, Gerrit; Hagfeldt, Anders; Rensmo, Håkan; Kloo, Lars; Sun, Licheng; Pettersson, Henrik
Physical and Analytical Chemistry, Uppsala University, Sweden

PV0513: **Studies of the anionic micelles effect on photogalvanic cells for solar energy conversion and storage in Sodium lauryl sulphate-Safranine-D-Xylose system**
Prakash Solanki, Prem; Gangotri, K M
Department of Chemistry, Banaras Hindu University, India

PV0713: **New cadmium sulfide nanomaterial for heterogeneous organic photovoltaic cells**
Rohovec, Jan; Touskova, Jana; Tousek, Jiri; Schauer, Frantisek; Kuritka, Ivo
Institute of Geology AS CR, v. v. i., Czech Republic

PV0845: **CdS nanoparticles surfactant removal transport study by transient charge measurements**
Schauer, F.; Nadazdy, V.; Lányi, S.; Rohovec, J.; Kuritka, I.; Touskova, J.; Tousek, J.
Institute of Physics, Slovak Academy of Sciences, Slovakia

PV0866: **Charge transient and electrochemical measurements as a tool for characterization and degradation study of organic semiconductors – PMPSis and MEH-PPV**
Nadazdy, V.; Gmucova, K.; Lányi, S.; Schauer, F.; Kuritka, I.
Institute of Physics, Slovak Academy of Sciences, Slovakia

PV – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: GERRIT BOSCHLOO, UPPSALA UNIVERSITY, SWEDEN

PV0322: **Fabrication of Annealing-Free High Efficiency and Large Area Polymer Solar Cells by Roller Painting Process**
Woong Jung, Jae; Ho Jo, Won
Materials Science and Engineering, Seoul National University, Korea

PV0913: **Bi-layer GaOHPc:PCBM/P3HT:PCBM organic solar cell**
Kaulachs, I.; Muzikante, I.; Gerca, L.; Shlihta, G.; Shipkovs, P.; Kashkarova, G.; Roze, M.; Kalnachs, J.; Murashov, A.; Rozite, G.
Institute of Physical Energetics, Latvia

PV1002: **Pulse and direct current electrodeposition of zinc oxide layers for solar cells with extra thin absorbers**
Khrypunov, G.; Klochko, N.; Volkova, N.; Kopach, V.; Lyubov, V.; Klepikova, K.
Materials for Electronics and Solar Cells, National Technical University "Kharkiv Polytechnic, Ukraine

PV – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: ALVARO GOMES, UNIVERSITY OF COIMBRA, PORTUGAL

PV0073: **Rope-pump System Modelling using Renewable Power Combinations**
Williams, Cai; Beattie, Andrew; Parker, Tim; Read, Jo; Booker, Julian D.
Department of Mechanical Engineering, University of Bristol, United Kingdom

PV0371: **Machine learning approach for next day energy production forecasting in grid connected photovoltaic plants**
Mora-López, L.; Martínez-Marchena, I.; Piliougine, M.; Sidrach-deCardona, M.
Lenguajes y Ciencias de la Computación, Universidad de Málaga, Spain

PV0445: **PSpice Model for Optimization of battery Charging using Maximum power point Tracker**
Ansari, Md. Fahim; Afzal, Anis; Chatterji, S.; Iqbal, Atif; Nautiyal, N.K; Thakur, Padmanabh
Electrical Engineering, AMU, Aligarh, India, Aligarh Muslim University, Aligarh, India, India

PV – K1

Thursday 12 May, 14.10 – 15.10

CHAIRPERSON: LARRY KAZMERSKI, NATIONAL RENEWABLE ENERGY LABORATORY, USA

PV0142: **Photovoltaic for Rural Development: A study of policy impact and scope of market development in South Asian Region**
Mahajan, Siddha; Garud, Shirish
Renewable Energy Technology Applications, The Energy and Resources Institute, India

PV0733: **Case Study: Modelling and sizing stand-alone PV systems for powering mobile phone stations in Libya**
Ghozzia, Salem; Mahkamovb, Khamid (presented by Kraitong, Kwanchai)
School of Comp., Engineering & Inform. Sciences, Northumbria University, United Kingdom

PV0753: **Designing a Photovoltaic Solar Energy System for a Commercial Building. Case Study: Rosa Park Hotel in Khartoum-Sudan**
Widatalla, Asim M.; Zinko, Heimo
Tema Institute, Linkoping University, Sudan

PV – L1

Thursday 12 May, 15.50 – 17.30

CHAIRPERSON: ERIK DAHLQUIST, MÄLARDALEN UNIVERSITY, SWEDEN

PV0150: **Design, fabrication and testing of micro-channel solar cell thermal (MCSCT) tiles in indoor condition**
Agrawal, Sanjay; Solanki, S.C.; Tiwari, G.N.
Centre for Energy Studies, IIT Delhi, India

PV0187: **Using structured aluminum reflectors in flux scattering on module performance**
Simfukwe, Joseph; Hatwaambo, Sylvester; Hansingo, Kabumbwe
Department of Physics, University of Zambia, Zambia

PV0818: **Semi-Virtual laboratory design for photovoltaic generator characterization performance**
Belmili, Hocine; Haddadi, MouradMed Aitcheikh, Salah; Chikouche, Ahmed
UDES, Angola

PV1080: **Two Phase Change Material with Different Closed Shape Fins in Building Integrated Photovoltaic System Temperature Regulation**
Huang, M. J.
School of Built Environment, University of Ulster, United Kingdom

PV1096: **Performance-based analysis of a double-receiver photovoltaic system.**
Mokri, Alaeddine; Emziane, Mahieddine
Materials Science and Eng., Masdar Institute, United Arab Emirates

PV – M1

Friday 13 May, 09.20 – 10.40

CHAIRPERSON: ALVARO GOMES, UNIVERSITY OF COIMBRA, PORTUGAL

PV0034: **Evaluation of the Solar Hybrid System for Rural Schools in Sabah, Malaysia**
Mahmud, Abdul Muhaimin
Public Works Department of Malaysia, Malaysia

PV0247: **Analysis of dust losses in photovoltaic modules**
Zorrilla-Casanova, J.; Piliougine, M.; Carretero, J.; Bernaola, P.; Carpena, P.; Mora-López, L.; Sidrach-de-Cardona, M.
Applied physics II, University of Málaga, Spain

PV0870: **Analytical model and experimental validation of the heat transfer and the induced flow in a PV cooling duct in environmental conditions**
Mazón, R.; Káiser, A.S.; Zamora, B.; García, J.R.; Vera, F.
Thermal and Fluid Engineering Department, Technical University of Cartagena, Spain

PV1018: **An experimental study of combining a photovoltaic system with a heating system**
Hosseini, R.; Hosseini, N.; Khorasanizadeh, H.
Kashan University, Iran

PV – N1

Friday 13 May, 11.00 – 12.00

CHAIRPERSON: LARRY KAZMERSKI, NATIONAL RENEWABLE ENERGY LABORATORY, USA

PV0740: **Improving the performance of solar panels by the use of phase-change materials**
Biwole, Pascal; Eclache, Pierre; Kuznik, Frederic
Mathematics and Interactions, J-A. Dieudonné Lab., University of Nice, France

PV0748: **Assessing the impact of micro generation in radial low voltage distribution networks taking into consideration the uncertainty**
Gomes, Alvaro; Pires, Luís
Electrical Engineering and Computers, University of Coimbra / INESC Coimbra, Portugal

PV0959: **Optimal Sizing of an Islanded Micro-grid for an area in north-west Iran Using Particle Swarm Optimization Based on Reliability Concept**
Hassanzadehfard, H.; Moghaddas-Tafreshi, S.M.; Hakimi, S.M.
K.N.Toosi University, Iran

PV0695: **Polymer solar cells in photovoltaic energy conversion**
Tvingstedt, Kristofer; Andersson, Viktor; Andersson, Mattias; Müller, Christian; Vandewal, Koen; Zhang, Fengling; Andersson, Mats; Inganäs, Olle
Department of Physics, Chemistry and Biology (IFM), Linköping University, Sweden

Sustainable Cities and Regions (SCR)

SCR – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: JACQUES KIMMAN, SOUTH UNIVERSITY, THE NETHERLANDS

SCR1011: **Promoting renewable energy through green procurement and impact assessment**
Uttam, Kedar; Balfors, Berit; Mörtberg, Ulla
Mark-och vattenteknik, Kungliga Tekniska Högskolan, Sweden

SCR0642: **Renewable Energy in Flanders. Current Situation, trends and potential for spatial planning**
Lastra Bravo, X.B.; Steenberghen, T.; Tolón Becerra, A.; Debecker, B.
Rural Engineering, University of Almería, Spain

SCR1125: **Sustainable Cities: Strategy and Indicators for Healthy Living Environments**
Aboulnaga, Mohsen M.; Abdullah, Sabah
University of Dubai, Dubai

SCR0219: **Semantic Link with the Natural Environment: Sustainable and Healthy Artificial Environments for Hot-Humid and Warm-Humid Climates**
Kochan, Ahmet; Colak, Altay; Uzun, Tolga; Berkman, Ayberk N; Yegin, Mustafa; Gunes, Erkan
Dep. of Architecture, Cukurova University, Turkey

SCR0400: **Green Sustainable Island by Implementation of Environmental, Health, Safety and Energy Strategy in KISH Trading-Industrial Free Zones-IRAN**
Padash, Amin; Khodaparast, M.; Zahirian, A.; Kaabi Nejadian, A.
Environmental Engineering Department, Sana''ati Sharif Jahad Daneshgahi University, Iran

SCR0421: **An Analysis of two Sustainable projects in the light of the LEED-NC and LEED-ND rating systems**
Roseta-Vaz-Monteiro, F.; Karayianni-Vasconcelos, E.M.
CIAUD FAUTL, Portugal

SCR – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: DAG HENNING, OPTENSYS, SWEDEN

SCR0135: **Energy demand and available technologies analysis for district heating cooling applications in a Science and Technology Park (PTA) in a Mediterranean country**
Zubizarreta, R.; Cejudo, J.M.; Jiménez, J.P.
Instituto Andaluz de Tecnología, Spain

SCR0688: **Sustainable Parameters for Latin American Cities**
Corbella, Oscar D.; Silva Barbosa, Gisele; Drach, Patricia R.C.
PROURB, PROURB/FAU/UFRJ, Brazil

SCR0690: **Urban microclimates and renewable energy use in cities**
Turkbeyler, Erdal; Yao, Runming; Day, Tony
University of Reading, United Kingdom

SCR – C2

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: HEIMO ZINKO, LINKÖPING UNIVERSITY, SWEDEN

SCR0417: **Development of a concept for ecological city planning for St. Petersburg, Russia**
Nystedt, Åsa; Sepponen, Mari
Eco Efficient Distric Solutions, VTT Technical Research Centre of Finland, Finland

SCR0717: **Challenges for developing a system for biogas as vehicle fuel – lessons from Linkoping, Sweden**
Berglund, Björn; Ersson, Carolina; Eklund, Mats; Martin, Michael
Environmental Technology and Management, Linköping University, Sweden

SCR0788: **Estimation of Renewable Energy Potential and Use – A Case Study of Hokkaido, Northern-Tohoku Area and Tokyo Metropolitan, Japan**

Wakeyama, Tatsuya; Ehara, Sachio
Department of Earth Resources Engineering, Kyushu University, Japan

SCR – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: DAG HENNING, OPTENSYS, SWEDEN

SCR0863: **Evaluating the greenhouse gas impact from biomass gasification systems in industrial clusters – methodology and examples**
Holmgren, Kristina M.; Berntsson, Thore; Andersson, Eva; Rydberg, Tomas
IVL Swedish Environmental Research Inst./ Chalmers, Sweden

SCR0893: **Application of CHP Gas Engine Plant for a Detergent Factory: Energy and Environmental Aspects**
Ameri, Mohammad; Afsharzadeh, Seyed Mohammad Ali
Energy Eng. Department, Power & Water University of Technology, Iran

SCR0399: **Exploring the sustainability of industrial production and energy generation with a model system**
Kotecha, Prakash R.; Diwekar, Urmila M.; Cabezas, Heriberto
Office of Research and Development, U.S. Environmental Protection Agency, USA

SCR0418: **Natural Ionizing System of Electrical Protection against Atmospheric Discharges (Lightning)**
Cabareda., L.
EBP Group, Pararrayos Ionizantes C.A., Venezuela

SCR – D2

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: HEIMO ZINKO, LINKÖPING UNIVERSITY, SWEDEN

SCR0097: **Implementing bioenergy villages – a promising strategy for decarbonizing rural areas?**
Jenssen, Till; König, Andreas; Eltrop, Ludger
SEE, Institute of Energy Economics and the Rational Use, Germany

SCR0984: **Sustainable regional development through the use of photovoltaic (PV) systems. The case of the Thessaly region**
Mitoula, Roido; Abeliotis, Konstadinos; Vamvakari, Malvina; Gratsani, Athina
Harokopio University, Greece

SCR1100: **Integrated Community Energy Modelling: developing map-based models to support energy and emissions planning in Canadian communities**
Webster, Jessica; Korteling, Brett; Gilmour, Brent; Margerm, Katelyn; Beaton, John
CanmetENERGY, Natural Resources Canada, Canada

SCR1118: **Carbon Neutral Village: The Australian Model**
Stewart, Joanne; Anda, Martin; Goodfield, David; Ho, Goen; Mathew, Kuruvilla
Murdoch University, Australia

SCR – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: ZVONIMIR GUZOVIC, UNIVERSITY OF ZAGREB, CROATIA

SCR0340: **Improving energy and material flows: a contribution to sustainability in megacities**
Mejía Dugand, S.; Hjelm, O.; Baas, L.W.
IEI, Linköpings universitet, Sweden

SCR0492: **Renewable energy mapping in Maharashtra, India using GIS**
Kulkarni, Sampada; Banerjee, Rangan
IIT Bombay, India

SCR0697: **Project management and institutional complexity in domestic housing refurbishment with innovative energy solutions. A case study analysis.**
Hoppe, Thomas; Lulofs, Kris R.D.
CSTM, University of Twente, Netherlands

SCR0891: **Improvements in environmental performance of biogas production from municipal solid waste and sewage sludge**
Eriksson, Ola; Bisaillon, Mattias; Haraldsson, Mårten; Sundberg, Johan
Building-, Energy- and Environmental Engineering, Univeristy of Gävle, Sweden

SCR – E2

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: ANDREAS KOCH, EUROPEAN INSTITUTE FOR ENERGY RESEARCH, GERMANY

SCR0583: **Environmental thermal impact assessment of regenerated urban form: A case study in Sheffield**
Fahmy, Mohammad; Hathway, Abigail; Pattacini, Laurence; Elwan, Amr
School of Architect, Sheffield university, United Kingdom

SCR1099: **Mitigating Heat Gain Using Greenery of an Eco-House in Abu Dhabi**
Al-Sallal, Khaled A.; Al-Rais, Laila
Architectural Engineering, UAEU, United Arab Emirates

SCR1147: **Solar energy in urban community in City of Salzburg, Austria**
Strasser, Helmut; Mahler, Boris; Dorfinger, Norbert
SIR, Austria

SCR1152: **Towards a 2kW City – the case of Zürich**
Wilke, Urs; Papadopoulou, Maria; Robinson, Darren
Solar Energy and Building Physics Laboratory, Swiss Federal Institute of Technology, Switzerland

SCR – F1

Tuesday 10 May, 15.50 – 18.10

CHAIRPERSON: ZVONIMIR GUZOVIC, UNIVERSITY OF ZAGREB, CROATIA

SCR0347: **Combined Optimal Placement of Solar, Wind and Fuel cell Based DGs Using AHP**
Singh, A.K.; Parida, S.K.
Department of Electrical Engineering, Indian Institute of Technology Patna, India

SCR0430: **Integrated waste management as a mean to promote renewable energy**
Eriksson, Ola; Bisaillon, Mattias; Haraldsson, Mårten; Sundberg, Johan
Building-, Energy- and Environmental Engineering, Univeristy of Gävle, Sweden

SCR0567: **Determination of the Operating Regimes of CHP Turbines with Stage-wise Heating of District Heating System Water**
Guzovic, Zvonimir; Jukic, Perica; Loncar, Drazen
Department of Energy, Power Engineering and Enviro, Faculty of Mechanical Engineering and Naval Archit, Croatia

SCR0607: **Potential for low-temperature energy usage at power plant's cold end in order to increase energy efficiency**
Mijakovski, Vladimir I.; Mijakovski, Nikola
Department of Mechanical engineering, Faculty of Technical Sciences, Macedonia

SCR0710: **An Evaluation of Internal Combustion Engines as the Prime Movers in CHP Systems**
Aghaei Meybodi, Mehdi; Behnia, Masud
The University of Sydney, Australia

SCR0937: **Air gasification of palm empty fruit bunch in a fluidized bed gasifier using various bed materials**
Lahijani, Pooya; Najafpour, Ghasem D.; Alimuddin Zainal, Zainal; Mohammadi, Maedeh
Department of Chemical Engineering, Noshirvani University of Technology, Iran

SCR0997: **Experimental investigation of the use of lignite ash for roof solar cooling**
Vardoulakis, Eftychios; Karamanis, Dimitris
Environmental & Natural Resources Management, University of Ioannina, Greece

SCR – F2

Tuesday 10 May, 15.50 – 17.50

CHAIRPERSON: JACQUES KIMMAN, SOUTH UNIVERSITY, THE NETHERLANDS

SCR0173: **Future-Proofed Design for Sustainable Urban Settlements: Integrating Futures Thinking into the Energy Performance of Housing Developments**
Georgiadou, Maria-Christina P.; Hacking, Theophilus
Engineering Department, University of Cambridge, United Kingdom

SCR0769: **Space-time of solar radiation as guiding principle for energy and materials choices**
Rovers, Ronald; Broers, Wendy; de Flander, Katleen; Rovers, Vera
RiBuilT, Netherlands

SCR0772: **Energy Efficient Building in Third Climatic Region of Turkey**
Cubuk, M.H.; Emanet, Ö.; Agra, Ö.
Department of Mechanical Engineering, Yildiz Techical University, Turkey

SCR1053: **Urban materials for comfortable open spaces**
Dessì, Valentina
BEST, Politecnico di Milano, Italy

SCR1149: **The Franklin district of Mulhouse: first French experience of low energy building renovation in a historic area of the city centre**
Boutaud, Benoit; Koch, Andreas; Girault, Pascal
N41, EIFER, Germany

SCR1223: **Energy Efficient Communities – A Collaboration Project of the International Energy Agency IEA**
Jank, Reinhard
Department of Energy Management, Volkswohnung GmbH, Germany

SCR – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: DAG HENNING, OPTENSYS, SWEDEN

SCR0914: **Building refurbishment to passive house standards of the quarter Brogården in Alingsås, Sweden**
Zinko, Heimo
IEI, Linköping University, Sweden

SCR1218: **Energy performance indicators for neighbourhoods applied on CONCERTO projects**
Pol, Olivier
Department of Energy, ÖFPZ Arsenal GmbH, Austria

SCR1200: **Towards a Net Zero Building Cluster Energy Systems Analysis for US Army Installations**
Zhivov, Alexander; Liesen, Richard J.; Richter, Stephan; Jank, Reinhard; Underwood, David M.; Neth, Dieter; Woody, Alfred; Björk, Curt; Duncan, Scot
CERL, USACE Engineer Research and Development Center, USA

SCR – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: OLIVER POL, AUSTRIAN INSTITUTE OF TECHNOLOGY, AUSTRIA

SCR0345: **A Study of Urban Form and the Integration of Energy Supply Technologies**
Cheng, Vicky; Deshmukh, Sandip; Hargreaves, Anthony; Steemers, Koen; Leach, Matthew
Centre for Environmental Strategy, University of Surrey, United Kingdom

SCR1193: **IEA-ECBCS Annex 51: energy efficient communities. Experience from Denmark**
Dalla Rosa, A.; Svendsen, S.
Technical University of Denmark, Denmark

SCR1127: **Towards optimization of urban planning and architectural parameters for energy use minimization in Mediterranean cities**
Neophytou, M.; Fokaides, P.; Panagiotou, I.; Ioannou, I.; Petrou, M.; Sandberg, M.; Wigo, H.; Linden, E.; Batchvarova, E.; Videnov, P.; Dimitroff, B.; Ivanov, A.
Department of Civil and Environmental Engineering, University of Cyprus, Cyprus

SCR – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: RYOTA KUZUKI, TOKYO GAS CO. LTD., JAPAN

SCR1015: **Case study on the effects of smart energy community construction at Kanazawa seaside district in Yokohama**
Yoshida, Satoshi; Sadohara, Satoru; Ikuta, Yuichi; Kuzuki, Ryota; Ichikawa, Toru
Yokohama National University, Japan

SCR1043: **Study on Low Carbon Energy Supply to the District Heating & Cooling Plants and Buildings with a Waste Heat Pipeline in Yokohama City**
Ichikawa, Toru; Kuzuki, Ryota; Yoshida, Satoshi; Sadohara, Satoru
Energy Sales and Service Planning, Tokyo Gas Co., Ltd., Japan

SCR1137: **Study on the Non-Energy Benefit (NEB) of Area-Wide Energy Utilization and Evaluation of the Marginal Abatement Cost**
Kuzuki, Ryota; Murakami, Shuzo; Ikaga, Toshiharu; Sadohara, Satoru; Yoshida, Satoshi; Ichikawa, Toru; Kato, Yoshio; Tanaka, Tsutsumi; Ikuta, Yuichi; Aozasa, Ken
Energy Strategic Planning Dept., Tokyo Gas Co., Ltd., Japan

SCR – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: RYOTA KUZUKI, TOKYO GAS CO. LTD., JAPAN

SCR0465: **Regional climate and energy strategies: actors, responsibilities, and roles**
Palm, J.
Dept of Thematic Studies, Linköping University, Sweden

SCR0654: **Wave Power Resource in Iran for Electrical Power Generation**
Faiz, Jawad; Ebrahimi-salari, M.
Electrical & Computer Engineering, University of Tehran, School of Electrical &, Iran

SCR0835: **Effects of environmental taxation on district heat production structures**
Gustavsson, Leif; Le Truong, Nguyen; Dodoo, Ambrose; Sathre, Roger
Mid Sweden University and Linnaeus University, Sweden

SCR0898: **Energy Neutral Districts? Key to Transition towards Energy Neutral Built Environment!**
Willems, Eric M.M.; Jablonska, Bronia; Jan Ruig, Gerrit; Krikke, Tom
Cauberg-Huygen R.I. BV, Netherlands

SCR – L1

Thursday 12 May, 15.50 – 18.10

CHAIRPERSON: JENNY PALM, LINKÖPING UNIVERSITY, SWEDEN

SCR0368: **A Forecast of Effective Energy Efficient Policies for the Building Sector in Shanghai through 2050**
Xing, Rui; Ikaga, Toshiharu; Strubegger, Manfred
Keio University, China

SCR0104: **The Institutional dimension of rural electrification in the Brazilian Amazon.**
Gómez, Maria; Silveira, Semida
ECS/ITM/KTH, Sweden

SCR0098: **The Mágina Project. The renewables potential for electricity production in the province of Jaén, southern Spain**
Terrados, J.; Ruiz-Arias, J.A.; Hontoria, L.; Almonacid, G.; Pérez, P.J.; Pozo-Vázquez, D.; Gallego, F.J.; Gómez, P.; Castro, E.; Martín-Mesa, A.; del Jesús, M.J.
Projects Department, University of Jaen, Spain

SCR0437: **Different regional scenarios of renewable energies analyzed with the use of Analytic Network Process**
Comino, Elena; Riggio, Vincenzo; Rosso, Maurizio
DITAG, Politecnico di Torino, Italy

SCR1124: **The Händelö area in Norrköping, Sweden. Does it fit for Industrial Symbiosis development?**
Hatefipour, Saeid; Baas, Leenard; Eklund, Mats
IEI/Environmental Technology and Management, Linköping University, Sweden

SCR0667: **Dynamics of Energy Consumption Patterns in Turkey: Its Drivers and Consequences**
Bölük, Gülden; Ali Koc, A.
Department of Economics, Akdeniz University, Turkey

SCR0306: **Optimization of a renewable energy supply system on a remote area: Berlenga Island case study**
Amaral, L.; Martins, N.; Gouveia, J.
Department of Economics, Management and Industrial Engineerin, University of Aveiro, Portugal

Sustainable Transport (ST)

ST – E1

Tuesday 10 May, 14.10 – 15.30

CHAIRPERSON: JULIA KING, ASTON UNIVERSITY, UNITED KINGDOM
CO-CHAIR: JAN-ERIC SUNDGREN, VOLVO AB, SWEDEN

ST0539: **The Use of Sustainable Travel Planning Strategies within Remote Cities**
Ismail, Mohamed H
TSBE Centre, University of Reading, United Kingdom

ST0722: **Not planning a sustainable transport system – Swedish case studies**
Finnveden, Göran; Åkerman, Jonas
Environmental Strategies Research, KTH Royal Institute of Technology, Sweden

ST0998: **Sustainable bus transports through less detailed contracts**
Lidestam, Helene
Department of Management and Engineering, Linköping University, Sweden

ST1004: **Analysis of alternative policy instruments to promote electric vehicles in Austria**
Gass, Viktoria; Schmidt, Johannes; Schmid, Erwin
Department of Economics and Social Sciences, University of Natural Resources and Life Sciences, Austria

ST – F1

Tuesday 10 May, 15.50 – 17.30

CHAIRPERSON: JAN-ERIC SUNDGREN, VOLVO AB, SWEDEN

ST0049: **Comparative Analysis of Performance and Combustion of Koroch Seed Oil and Jatropha Methyl Ester blends in a Diesel Engine**
Gogoi, Tapan K.; Talukdar, Shovana; Baruah, Debendra C.
Department of Mechanical Engineering, Tezpur University, India

ST0078: **Performance Study of a Diesel Engine by using producer gas from Selected Agricultural Residues on Dual-Fuel Mode of Diesel-cum-Producer gas**
Ghosal, M.K.; Das, D.K.; Dash, S.P.
Mechanical Eng., Sam College of Eng. and Tech, India

ST0282: **Comparative Study on Performance of Straight Vegetable Oil and its FAME with respect to Common Diesel Fuel in Compression Ignition Engine**
Sabyasachi Singh, Soumya Sri; Ray, Dwijendra Kumar; Misra, Sunasira; Parida, Soumya; Sahu, Debendra Kumar
Department of Chemistry, C.V.Raman College of Engineering, India

ST0540: **An Experimental Investigation on Performance and Emissions of a Multi Cylinder Diesel Engine Fueled with Hydrogen-Diesel Blends**
Maki, Duraid F.; Prabhakaran, P.
The M. S. University of Baroda, India

ST1017: **Combustion Characteristics of an Indirect Injection (IDI) Diesel Engine Fueled with Ethanol/Diesel and Methanol/Diesel Blends at Different Injection Timings**
Turkcan, Ali; Canakci, Mustafa
Technical Education Faculty, Kocaeli University, Turkey

ST – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: HELENE LIDESTAM, LINKÖPING UNIVERSITY, SWEDEN

ST0228: **Land use, greenhouse gas emissions and fossil fuel substitution of biofuels compared to bioelectricity production for electric cars in Austria**
Schmidt, Johannes; Gass, Viktoria; Schmid, Erwin
University of Natural Resources and Life Sciences, Austria

ST0859: **Technological challenges for alternative fuels technologies in the EU. A well-to-Tank assessment and scenarios until 2030 considering technology learning**
Toro, Felipe; Wietschel, Martin
IREES GmbH, Germany

ST0970: **Impact of Plug-in Hybrid Electric Vehicles on Tehran's Electricity Distribution Grid**
Hakimi, S. M.; Moghaddas-Tafrshi, S. M.
K.N.Toosi University, Iran

ST – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: HELENE LIDESTAM, LINKÖPING UNIVERSITY, SWEDEN

ST0833: **Analysis of the CO_2 and energy demand reduction potentials of passenger vehicles based on the simulation of technical improvements until 2030**
Toro, Felipe; Reitze, Felix; Jain, Sulabh; Jochem, Eberhard
IREES GmbH, Germany

ST1072: **Experimental performance of an R134a automobile heat pump system coupled to the passenger compartment**
Direk, M.; Hosoz, M.; Yigit, K.S.; Canakci, M.; Turkcan, A.; Alptekin, E.; Sanli, A.; Ozguc, A.F.
Mechanical Education, Kocaeli University, Turkey

MO1139: **Development of a Low Cost Point Absorber Wave Energy Converter for Electric Mobility**
Foster, Jacob W.; Ghorbani, Reza; Garambois, Pierre; Jonson, Emma; Karlsson, Sten
University of Hawaii, USA

ST – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: GÖRAN FINNVEDEN, ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

ST0318: **Prospects for eliminating fossil fuels from the electricity and vehicle transport sectors in New Zealand**
Leaver, Jonathan D; Leaver, Luke HT
Civil Engineering, Unitec Institute of Technology, New Zealand

ST0374: **Advanced Research Strategy for Designing the Car of the Future**
Gkagkas, Konstantinos; Ambeck-Madsen, Jonas; Sakata, Ichiro
Advanced Technology, Toyota Motor Europe nv/sa, Belgium

ST1069: **Electric Vehicle with Charging Facility in Motion using Wind Energy**
Ferdous, S.M.; Bin Khaled, Walid; Ahmed, Benozir; Salehin, Sayedus; Ghani Ovy, Enaiyat
Electrical and Electronic Engineering, Islamic University of Technology, Bangladesh

ST – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: GÖRAN FINNVEDEN, ROYAL INSTITUTE OF TECHNOLOGY, SWEDEN

ST0118: **Whole-system Optimisation for Carbon Footprints Reduction of Corn Bioethanol**
Zamboni, Andrea; Shah, Nilay; Bezzo, Fabrizio
Department of Chemical Engineering, University of Padua, Italy

ST0204: **Effects of Biodiesel Fuel Use on Vehicle Emissions**
Anderson, Larry G.
Department of Chemistry, University of Colorado Denver, USA

ST0391: **First experiences of ethanol hybrid buses operating in public transport**
Wikström, Martina; Folkesson, Anders; Alvfors, Per
KTH - Energy Processes, Sweden

ST0869: **Local production of bioethanol to meet the growing demands of a regional transport system**
Daianova, Lilia; Thorin, Eva; Yan, Jinyue; Dotzauer, Erik
Mälardalen högskola, Sweden

Solar Thermal Applications (STH)

STH – B1

Monday 9 May, 16.10 – 18.10

CHAIRPERSON: SOTERIS A. KALOGIROU, CYPRUS UNIVERSITY OF TECHNOLOGY, CYPRUS

STH0155: **Environmental Regulation, Solar Energy Technology Components and International Trade – An Empirical Analysis of Structure and Drivers**
Groba, Felix
Energy, Transport, Environment, German Institute of Economic Research, Germany

STH0165: **Environmental Impacts of Solar Thermal Systems with Life Cycle Assessment**
de Laborderie, Alexis; Puech, Clément; Adra, Nadine; Blanc, Isabelle; Beloin-Saint-Pierre, Didier; Padey, Pierryves; Payet, Jérôme; Sie, Marion; Jacquin, Philippe
R&D and International Department, Transenergie, France

STH0636: **Solar energy measurement on the South African east coast**
Zawilska, E.; Brooks, M.J.
Department of Mechanical Engineering, Mangosuthu University of Technology, South Africa

STH0686: **Investigation of Solar Collector systems use in Latvia**
Shipkovs, P.; Lebedeva, K.; Kashkarova, G.; Migla, L.; Pankars, M.
Institute of Physical Energetics, Latvia

STH0990: **New Method for Predicting the Performance of Solar Pond in any Sunny Part of the World**
Sharif, Adel O.; Al-Hussaini, Hazim; Alenezi, Ibrahim A.
Chemical & Process Eng. Dept., University of Surrey, United Kingdom

STH1102: **Choice of solar share of a hybrid power plant of a central receiver system and a biogas plant in dependency of the geographical latitude**
Alexopoulos, Spiros; Hoffschmidt, Bernhard; Rau, Christoph; Sattler, Johannes
Solar-Institut Jülich, Aachen University of Applied Sciences, Germany

STH – C1

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: DOROTA WÓJCICKA-MIGASIUK, LUBLIN UNIVERSITY OF TECHNOLOGY, POLAND

STH0188: **Building-integrated Solar Collector (BISC)**
Huang, Bin-Juine; Lin, Yu-Hsing; Ton, Wei-Zhe; Hou, Tung-Fu; Chuang, Yi-Hung
Department of Mechanical Engineering, National Taiwan University, Taiwan

STH0983: **Passive solar design in schools for the protection of the environment Greece: a case study**
Economou, Agisilaos
National Technical University of Athens, Greece

STH1000: **Modeling of the Seawater Greenhouse Systems**
Salehi, G.R.; Ahmadpour, M.; Khoshnazar, H.
Mechanical Engneering, Islamic Azad University, Iran

STH – C2

Tuesday 10 May, 09.20 – 10.20

CHAIRPERSON: EWA ZAWILSKA, MANGOSUTHU UNIVERSITY OF TECHNOLOGY, SOUTH AFRICA

STH0061: **An exergy based unified test protocol for solar cookers of different geometries**
Kumar, Naveen; Vishwanath, G.; Gupta, Anurag
Electronics Design & Manufacturing, IIIT D & M Kancheepuram, India

STH0356: **Development of Model Solar Kitchen with Green Energy for Demonstration and Application in Rural Areas**
Rout, Sanjib Kumar
Business Management, C.V.Raman College of Engineering, India

STH0426: **Design, Construction and Experiment on Solar cooker with automatic sun tracking system**
Kaabi-Nejadian, A.; Nouri, M.; Moradian, M.A; Mashhoodi, M.; Kavehzadeh, P.; Bagher, B.
Ministry of Energy, Renewable Energy Organization, Iran

STH – D1

Tuesday 10 May, 10.40 – 12.00

CHAIRPERSON: DOMINIC GROULX, DALHOUSIE UNIVERSITY, HALIFAX, CANADA

STH0237: **Evaluation of an integrated photovoltaic thermal solar (IPVTS) water heating system for various configurations at constant collection temperature**
Kumar Mishra, Rajeev; Tiwari, G.N.
Centre for Energy Studies, IIT Delhi, India

STH0382: **Design of a Latent Heat Energy Storage System Coupled with a Domestic Hot Water Solar Thermal System**
Murray, Robynne; Desgrosseilliers, Louis; Stewart, Jeremy; Osbourne, Nick; Marin, Gina; Safatli, Alex; Groulx, Dominic; White, Mary Anne
Mechanical Engineering, Dalhousie University, Canada

STH0536: **Retrofitting Domestic Hot Water Tanks for Solar Thermal Collectors. A theoretical analysis**
Bernardo, Luís Ricardo; Davidsson, Henrik; Karlsson, Björn
Energy and Building Design, Lund University (Sweden), Sweden

STH0798: **Travelling Energy Collectors**
Kussul, Ernst; Baidyk, Tatiana; Saniger, José; Lara, Felipe; Bruce, Neil
Information Technology, CCADET, UNAM, Mexico

STH – E1

Tuesday 10 May, 14.10 – 15.10

CHAIRPERSON: SOTERIS A. KALOGIROU, CYPRUS UNIVERSITY OF TECHNOLOGY, CYPRUS

STH0541: **Configuration aspect analysis in solar chimney power plants using finite element method**
Chergui, Toufik; Larbi, Salah; Bouhdjar, Amor
Mechanical Engineering Department, Polytechnic National School of Algiers, Algeria

STH0617: **Configuration of daylighting system via fibers and experiments of concentrated sunlight transmission**
Song, JF; Yang, YP; Hou, HJ; Zhang, MX
New and Renewable Energy of Beijing Key Laboratory, North China Electric Power University, China

STH0811: **Type12 and Type56: a load structure comparison in TRNSYS**
Persson, Helena; Perers, Bengt; Carlsson, Bo
Linnaeus University, Sweden

STH – F1

Tuesday 10 May, 15.50 – 17.50

CHAIRPERSON: HAZIM AL-HUSSAINI, SURREY UNIVERSITY, UNITED KINGDOM

STH0239: **Performance of hybrid photovoltaic thermal (HPVT) biogas plant**
Prabhakant; Mishra, Rajeev Kumar; Tiwari, G.N.
Centre for Energy Studies, IIT Delhi, India

STH0986: **Air bottoming cycle for hybrid solar-gas power plants**
Khaldi, Fouad
Departement of Physics, University of Batna, Algeria

STH0111: **Economic Implications of Thermal Energy Storage for Concentrated Solar Thermal Power**
Wagner, Sharon J.; Rubin, Edward S.
Engineering and Public Policy, Carnegie Mellon University, USA

STH0662: **Social and technical aspects in solar system design**
Wójcicka-Migasiuk, Dorota; Chochowski, Andrzej
Production Engineering, University of Life Sciences, Poland

STH0958: **Reducing energy consumption in Natural Gas Pressure Drop Stations by Employing Solar Heat**
Rezaei, Mohammad; Farzaneh-Gord, Mahmood; Arabkoohsar, Ahmad; Dashtbayaz, Mahdi Deymi
Mechanical Eng., Shahrood University of Technology, Iran

STH1035: **On the Significance of Concentrated Solar Power R&D in Sweden**
Strand, Torsten; Spelling, James; Laumert, Björn; Fransson, Torsten
Department of Energy Technology, KTH Royal Institute of Technology, Sweden

STH – G1

Wednesday 11 May, 09.20 – 10.20

CHAIRPERSON: DOMINIC GROULX, DALHOUSIE UNIVERSITY, HALIFAX, CANADA

STH0101: **Experimental heat transfer research in enhanced flat-plate solar collectors**
Herrero Martín, R.; Pinar, A. García; García, J. Pérez
Thermal and Fluid Engineering, Technical University of Cartagena, Spain

STH0552: **Closed Environment Design of Solar Collector Trough using Lenses and Reflectors**
Shariar, Kazy Fayeen; Ovy, Enaiyat Ghani; Hossainy, Tabassum Aziz
Electrical & Electronic Engineering, Islamic University of Technology, Bangladesh

STH0815: **Optimum integration of a large size collector to a solar thermal power plant**
Yaghoubi, M.; Zarrini, S.; Mirhadi, S.
Shiraz University, Iran

STH – H1

Wednesday 11 May, 10.40 – 11.40

CHAIRPERSON: EWA ZAWILSKA, MANGOSUTHU UNIVERSITY OF TECHNOLOGY, SOUTH AFRICA

STH0730: **Theoretical Modelling of a Dynamic Solar Thermal Desalination Unit with a Fluid Piston Engine**
Belgasim, B.; Mahkamov, K (presented by Alexakis, Athanasios)
Department of Engineering, Northumbria University, United Kingdom

STH0932: **Theoretical study of the aspect ratio of a solar still with double slopes**
Madhlopa, A.; Clarke, J.A.
Department of Mechanical Engineering, University of Strathclyde, United Kingdom

STH1178: **Concentrating solar power plants for electricity and desalinated water production**
Kalogirou, Soteris A.
Cyprus University of Technology, Cyprus

STH – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: BRIAN NORTON, DUBLINE INSTITUTE OF TECHNOLOGY, IRELAND

STH0738: **Design analysis for expansion of Shiraz solar power plant to 500 kW power generation capacity**
Azizian, K.; Yaghoubi, M.; Hesami, R.; Kanan, P.
Solar Energy, Renewable Energy Organization of Iran, Iran

STH0765: **Thermal regimes in solar-thermal linear collectors**
Muñoz, Javier; Martínez-Val, José M.; Abbas, Rubén
Grupo de Investigaciones Termoenergeticas, ETSII- Madrid Polytechnic University, Spain

STH0861: **Surface temperature distribution and energy gain from semi-spherical solar collector**
Pelece, Ilze; Ziemelis, Imants; Iljins, Uldis
Department of Physics, Latvia University of Agriculture, Latvia

STH – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: MASAYA OKUMIYA, NAGOYA UNIVERSITY, JAPAN

STH0209: **The effectivity of a hybrid solar distillator directly combined with a solar cell**
Murase, Kazuo; Yao, Tin; Aoyagi, Toki; Okuyama, Keishi
Department of Applied Chemistry, Chuo University, Japan

STH0273: **Comparative Energy and Exergy Analysis of Various Passive Solar Distillation Systems**
Singh, Ragh Vendra; Dev, Rahul; Hasan, M.M.; Tiwari, G.N.
Center for Energy Studies, Indian Institute of Technology Delhi, India

STH0277: **Simulation of a solar assisted combined heat pump-Organic Rankine Cycle-system**
Schimpf, Stefan; Uitz, Karsten; Span, Roland
Chair of Thermodynamics, Ruhr-Universität Bochum, Germany

STH0731: **Optimisation of Low Temperature Difference Solar Stirling Engines using Genetic Algorithm**
Kraitong, Kwanchai; Mahkamov, K
School of Comp., Engineering & Inform. Sciences, Northumbria University, United Kingdom

STH – K1

Thursday 12 May, 14.10 – 15.30

CHAIRPERSON: DOROTA WÓJCICKA-MIGASIUK, LUBLIN UNIVERSITY OF TECHNOLOGY, POLAND

STH0052: **Performance Prediction and Experimental Analysis of a Solar Liquid Desiccant Air Conditioner**
Alizadeh, S.; Haghgou, H.R.
Energy, Materials & Energy Research Centre (MERC), Iran

STH0100: **Investigation on radiative load ratio of chilled beams on performances of solar hybrid adsorption refrigeration system for radiant cooling in subtropical city**
Fong, K.F.; Lee, C.K.; Chow, T.T.
Building Science and Technology, City University of Hong Kong, China

STH0309: **A hybrid solar-gas air conditioning system based on adsorption and chilled water storage**
Leite, Antonio P. F.; Riffel, Douglas B.; Ribeiro, Celina M.C.; Belo, Francisco A.; Domingos, Paulo V.S.R.; Sarmento, Daniel; Soares, Manoel B.; Nascimento, Leonaldo J.L.
Solar Energy Laboratory, Federal University of Paraíba, Brazil

STH1012: **Performance analysis of the solar-thermal assisted air-conditioning system installed in an office building**
Okumiya, Masaya; Shinoda, Takuya; Ukai, Makiko; Tanaka, Hideki; Yoshinaga, Mika; Kato, Kazuyuki; Shimizu, Toshiharu
Environmental Studies, Nagoya University, Japan

STH – L1

Thursday 12 May, 15.50 – 17.50

CHAIRPERSON: EWA WÄCKELGÅRD, UPPSALA UNIVERSITY, SWEDEN

STH0267: **Characterization of nanostructure black nickel coatings for solar collectors**
Ghasempour, Z.; Rozati, S.M.
Department of Physics, University of Guilan, Iran

STH0324: **Investigations of heating process and absorber materials in air heating collector**
Aboltins, Aivars; Palabinskis, Janis
Institute of Agriculture Machinery, Latvia University of Agriculture, Latvia

STH0268: **Characterization of black chrome films prepared by electroplating technique**
Jafari, S.; Rozati, S.M.
Department of Physics, University of Guilan, Iran

STH0770: **Selective solar absorber coating research at the CSIR (South Africa)**
Roro, K.T.; Tile, N.; Yalisi, B.; De Gama, M.; Wittes, T.; Roberts, T.; Forbes, A.
NLC, CSIR, South Africa

STH1014: **Steel-Tinplate as a solar wall panel and its effectiveness**
Ruskis, G.; Aboltins, A.; Palabinskis, J.
Institute of Agricultural Machinery, Latvia University of Agriculture, Latvia

STH0270: **Nano structure black cobalt coating for solar absorber**
Toghdori, G.; Rozati, S.M.; Memarian, N.; Arvand, M.; Bina, M.H.
Department of Physics, University of Guilan, Iran

STH – M1

Friday 13 May, 09.20 – 10.20

CHAIRPERSON: BRIAN NORTON, DUBLINE INSTITUTE OF TECHNOLOGY, IRELAND

STH0364: **Combining the radiative, conductive and convective heat flows in and around a skylight**
Fält, Martin; Zevenhoven, Ron
Thermal and Flow Engineering, Åbo Akademi University, Finland

STH0658: **Development of a solar intermittent refrigeration system for ice production**
Moreno-Quintanar, G.; Rivera, W.; Best, R.
Universidad Nacional Autónoma de México, Mexico

STH0993: **Analysis of solar lithium bromide-water absorption cooling system with heat pipe solar collector**
Falahatkar, Amir; Khalaji Assadi, M.
Energy Department, Islamic Azad University, Iran

Wind Energy Applications (WE)

WE – I1

Thursday 12 May, 09.20 – 10.20

CHAIRPERSON: TARJA KETOLA, UNIVERSITY OF VAASA, FINLAND

WE0361: **Wind energy resources of the South Baltic Sea**
Hasager, Charlotte; Badger, Jake; Bingöl, Ferhat; Clausen, Niels-Erik; Hahmann, Andrea; Karagali, Ioanna; Peña, Merete Badger Alfredo
Wind Energy, Risø DTU, Denmark

WE0678: **The wind energy potential in the coasts of Persian Gulf used in design and analysis of a horizontal axis wind turbine**
Reiszadeh, Mehdi; Motahar, Sadegh
Mechanical Engineering, Isfahan University of Technology, eng:IRN

WE0724: **Measurements of the wind energy resource in the Latvia**
Shipkovs, P.; Bezrukov, V.; Pugachev, V.; Bezrukovs, Vl.; Silutins, V.
Ventspils International Radioastronomy centre, Ventspils University College, Latvia

WE – J1

Thursday 12 May, 10.40 – 12.00

CHAIRPERSON: IAN BISHOP, RISØ NATIONAL LABORATORY, DENMARK

WE0599: **Using meteorological wind data to estimate turbine generation output: a sensitivity analysis**
Kubik, M.L.; Coker, P.J.; Hunt, C.
University of Reading, United Kingdom

WE0611: **Wind speed and power characteristics at different heights for a wind data collection tower in Saudi Arabia**
Mahbub, Alam Md.; Rehman, Shafiqur; Meyer, Josua; Al-Hadhrami, Luai M.
Center for Engineering Research, Research Institut, King Fahd University of Petroleum and Minerals, Saudi Arabia

WE0715: **A wind tunnel method for screening the interaction between wind turbines in planned wind farms**
Sandberg, Mats; Wigö, Hans; Claesson, Leif; Cehlin, Mathias
University of Gävle, Sweden

WE0808: **Site Matching Of Offshore Wind Turbines – A Case Study**
Dangar, Pravin B; Kaware, Santosh H; Katti, P.K.
Electrical Engineering, Dr. Babasaheb Ambedkar Technological University, India

WE – K1

Thursday 12 May, 14.10 – 15.10

CHAIRPERSON: MARTIN DRECHSLER, HELMHOLTZ CENTRE FOR ENVIRONMENTAL RESEARCH, UFZ, GERMANY

WE0404: **Experimental and Fluid-dynamic Analysis of a Micro Wind Turbine in Urban Area**
Milanese, Marco; de Risi, Arturo; Laforgia, Domenico
University of Salento, Italy

WE0572: **Adjustment of k-w SST turbulence model for an improved prediction of stalls on wind turbine blades**
Chitsomboon, Tawit; Thamthae, Chalothorn
SUT, Thailand

WE0812: **Impact of ambient turbulence on performance of a small wind turbine**
Lubitz, William D.
Department of Engineering, University of Guelph, Canada

WE – L1

Thursday 12 May, 15.50 – 18.10

CHAIRPERSON: OLA CARLSON, CHALMERS UNIVERSITY, SWEDEN

WE0069: **Feasibility study of 6.6MW wind farm in Greek mainland**
Bakos, George C.
Democritus University of Thrace, Greece

WE0227: **Optimal spatial allocating of wind turbines taking externalities into account**
Meyerhoff, Jürgen; Drechsler, Martin
Helmholtz Centre for Environmental Research - UFZ, Germany

WE0580: **Opportunities for co-utilization of infrastructures for wind energy generation**
Ketola, Tarja
Turku School of Economics / Industrial Management, University of Turku / University of Vaasa, Finland

WE0674: **Optimal Layout for Wind Turbine Farms**
Attias, Koby; Ladany, Shaul P.
Industrial and Management Engineering, Ben Gurion University, Israel

WE0725: **What do we really know? A meta-analysis of studies into public responses to wind energy**
Bishop, Ian D.
University of Melbourne, Australia

WE1005: **Economic assessment of wind power uncertainty**
Gass, Viktoria; Strauss, Franziska; Schmidt, Johannes; Schmid, Erwin
Department of Economics and Social Sciences, University of Natural Resources and Life Sciences, Austria

WE1065: **Economics of DC wind collection grid as affected by cost of key components**
Stamatiou, Georgios; Srivastava, Kailash; Reza, Muhamad; Zanchetta, Pericle
Electric Power Systems, ABB Corporate Research, Sweden, Greece

WE – M1

Friday 13 May, 09.20 – 10.20

CHAIRPERSON: DAVID LUBITZ, UNIVERSITY OF GUELPH, CANADA

WE0444: **Study of transient stability for parallel connected inverters in Microgrid system works in standalone**
Andrade, F.; Cusido, J.; Romeral, L.; Cárdenas, J.J.
Area of Energy, Fundacio CTM Centre Tecnologic, Spain

WE0528: **Optimal Design of a Small Permanent Magnet Wind Generator for Rectified Loads**
Faiz, Jawad; Zareh, Nariman
Electrical & Computer Engineering, University of Tehran, School of Electrical &, Iran

WE0814: **Storage of Renewable Electricity through Hydrogen Production**
Stiller, Christoph; Schmidt, Patrick; Michalski, Jan
Ludwig-Bölkow-Systemtechnik GmbH, Germany

WE0088: **Combined cycle plants as support for wind power**
Moreira, N. Afonso; Borges, A.; Machado, A.
Universidade de Trás-os-Montes e Alto Douro, Portugal

WE – N1

Friday 13 May, 11.00 – 12.00

CHAIRPERSON: CHARLOTTE HASAGER, UNIVERSITY OF MELBOURNE, AUSTRALIA

WE0131: **Learning a wind farm power curve with a data-driven approach**
Marvuglia, Antonino; Messineo, Antonio
Kore University of Enna, Italy

WE0348: **Dynamic stall for a Vertical Axis Wind Turbine in a two-dimensional study**
Nobile, R.; Vahdati, M.; Barlow, J.; Mewburn-Crook, A.
TSBE Centre, University of Reading, United Kingdom

WE1073: **Simulation and technical comparison of different wind turbine power control systems**
Tahani, Mojtaba; Rahbari, Iman; Memarian, Samira; Mirmahdian, Saeedeh
Semnan University, Iran


Linköping University
WREC
Swedish Energy Agency
Swedish Biogas INTERNATIONAL
TEKNISKA VERKEN
Din vardag – Vår drivkraft
Sida
Springer
science+business media
LÄNSSTYRELSEN ÖSTERGÖTLAND
Taylor & Francis
Taylor & Francis Group
future position
60°40'17" North
17°06'29" East
213.141.90.204
Linköpings kommun
GÄVLE ENERGI
Region GÄVLEBORG
Gävle KOMMUN
UNIVERSITY OF GÄVLE