



PROGRAM

Time	SUNDAY, JULY 10, 2011
17.00 -19.00	RECEPTION TO PARTICIPANTS (and delivering of conference materials) - WELCOME DRINK (18.30-19.00) Hotel Olisippo Marquês de Sá (in front to the Conference Venue)

Time **MONDAY, JULY 11, 2011**

9.00 -9.30

Opening Session WELCOME TO PARTICIPANTS
A. Heitor Reis (Chair)
Ibrahim Dincer (Honorary Chair)
E. Rui Vilar, the President of Foundation Calouste Gulbenkian

9.30-10.30

Chair: M. Collares Pereira
Keynote address 1: "RENEWABLES AND HYDROGEN ENERGY OPTIONS TO COMBAT GLOBAL WARMING", Ibrahim Dincer

10.30-10.50 Refreshment Break

Auditorium 2

10.50-12.30

Session: GLOBAL WARMING FACTS AND PERSPECTIVES

Chair: David Wasdell

#43 On the use of the Constructal Law to study Climate change - *Francis Meunier, Marc Clause, A. Heitor Reis, Adrian Bejan*

#105 Discovery of the Major Mechanism of Global Warming and Climate Change - *Paul Cadelina Rivera*

#150 A Warming Trend in the Largest Industrial City, Korea - *Byeong-Kyu Lee*

Room 1

Specialized Session: CLIMATE CHANGE AND SUSTAINABLE ENERGY: ACTIONS AND TRANSITION TO A LOWER CARBON ECONOMY

Chair and organizer: Marc Rosen

Talk: Actions and transition to a lower carbon economy - Marc Rosen

#56 Cleantech take off - A business perspective on climate change - *Merete Wildner, Bettina Foged Sørensen, Christian Koch, Mads Schjærff Sørensen*

#119 Geothermal Energy: The Energy of the Future? - *M. Rosa Duque*

#44 How to effectively protect the Earth from global warming by means of advanced Sunlight Shield Equipment - *Hideyo Murakami*

#88 Global Warming in Bangladesh Perspective: Temperature Projections upto 2100 - *Mohammad Adnan Rajib, Md. Mujibur Rahman, Edward A. McBean*

#84 Geothermal Power Generation: Reserves, Technology and Status Review - *Stuart James Self, Bale V Reddy, Marc A Rosen*

12.30 -14.00 Lunch Break

Time **MONDAY, JULY 11, 2011**

14.00-15.00

Chair: Ana M. Silva

Keynote address 2: "THE AEROSOL – CLOUD – CLIMATE CONUNDRUM", Jost Heintzenberg

Auditorium 2

Room 1

15.00-16.40 Session: AEROSOLS AND PARTICULATE MATER

Specialized Session: CLOUDS, PRECIPITATION AND CLIMATE

Chair: Luiz Vargas

Co-Chairs and organizers: Vincenzo Levizzani and M. João Costa

#59 Study of a desert dust event over the South-Western Iberian Peninsula in summer 2010 - *M^a Ángeles Obregón Muñoz, Sergio Pereira, Frank Wagner, Antonio Serrano Pérez, Maria Luisa Cancillo Fernández, Ana Maria Silva*

#14 An approach to the retrieval of thin cloud optical depth from a Cimel sun-photometer - *Juan Luis Guerrero-Rascado, Maria João Costa, Ana Maria Silva, Francisco José Olmo*

#182 Forest fires in Portugal in summer 2010: contribution to atmospheric pollution - *Ana Isabel Calvo, Ana Patricia Fernandes, Teresa Nunes, Celia Anjos Alves, Ana Margarida Vicente, Margarita Evtugina, Ana Cristina Monteiro, Catia Vanessa Gonçalves, Luís Tarelho, Casimiro Pío*

#151 Elemental and Organic Carbon in PM10 from Urban and Background Areas in a Typical Industrial City, Korea - *Byeong-Kyu Lee*

#249 Individual particle analysis of atmospheric aerosols from Pico mountain, Azores - *Bruno Jose Vieira*

#137 Modeling Saharan Desert Dust Radiative Effects on Clouds - *Dina Santos, Maria João Costa, Ana Maria Silva, Rui Salgado*

#233 Recent variations in climate variables in Mainland Portugal: daily precipitation and air temperature extremes - *M. Isabel P. de Lima, Fátima E. Santo, Alexandre M. Ramos, João L. M. P. de Lima*

#236 Numerical modeling of heavy rainfall event over Maderia Island in Portugal-Sensitivity to Microphysics - *Hari Prasad Dasari, Rui Salgado, Maria João Costa, Ana Maria Silva*

16.40 Refreshment during Poster Session

Room 3

16.40-18.00 POSTER SESSION

Co-Chairs: M. João Costa and Can Ozgur Colpan

#37 An Overview of the PV Applications in Turkey - *Turgut Tüzün Onay, Elif Hot*

#225 Influence of forest fires on levels of PM10 and PM2.5 in Northern region of Portugal: Preliminary study - *Klara Slezakova, Cristina Delerue-Matos, Maria C. Alvim-Ferraz, Simone Morais, Maria C. Pereira*

#68 Validation of empirical models to estimate diffuse radiation at Badajoz (Spain) - *Guadalupe Sanchez Hernandez*

#40 Interactions between natural materials and inorganic pollutants - *Medjram Mohamed Salah*

#42 Thermal applications of biomass in hospitals - *Justo García*

#61 Classification of air masses arriving at Cáceres (Spain) and its relationship with their aerosol load - *M^a Ángeles Obregón Muñoz, Antonio Serrano Pérez, María Luisa Cancillo Fernández, José Agustín García García*

#107 Environmental Impact of Population Mobility from College of Health Technology of Coimbra - *Nelson Leite Sá, Mário Pina, João Paulo Figueiredo, Ana Ferreira*

#121 Lighting Systems based in LED Technology and Selected Light Points Outdoor Controls - *M^a Victoria Vázquez Godoy, Fernando Lopez Rodriguez, Antonio Ruiz Celma, José Luis Canito Lobo, Martín Cobos Rodríguez*

#130 Monthly Precipitation Indexes' Tendency Analysis in the State of Ceará, Brazil - *María João Guerreiro, Isabel Cunha Abreu, Teresa Lajinha, Eunice Maia Andrade*

#283 Aerosol size distribution from inversion of solar radiances and measured at ground-level during SPALI10 campaign - *Jesús Fernández-Gálvez, Juan Luis Guerrero-*

#247 Warm cloud study from ground-based remote sensing using different radiative transfer approaches - *Vanda Salgueiro, Maria João Costa, Ana Maria Silva, Miguel Potes, Rui Namorado Rosa*

#266 Heat waves in Central Europe during the period 1991-2006 - *Robert Twardosz, Andrzej Batko*

#398 Exergy analysis of Wind energy in Iran - *Elmira Eslami*

#258 Preparation, characterization and adsorption properties of mineral activated carbon - *Abdelhamid Addoun*

#261 Adsorption properties of modified date pits activated carbons - *Fatima Addoun*

#269 Precipitation Modes in the Tagus Basin - *Ligia Pinto Almeida, Filipe Duarte Santos*

#241 Determination of water quality parameters and their usefulness on climate modelling - *Miguel Potes, Maria João Costa, Rui Salgado*

#271 Co(II) removal from wastewater by a low-cost adsorbent: kinetics and equilibrium studies - *Makhlouf Boufatit*

#336 Quantification of Organic Matter and Physical-Chemical Characterization of Mangrove Soil at Hooker Bay, San Andres Island - Colombia - *Andres Noel Moreno*

Rascado, Francisco Molero, Hassan Lyamani, Maria Aranzazu Revuelta, Francisco Navas-Guzmán, Mariano Sastre, Juan Antonio Bravo-Aranda, Alfonso Javier Fernández, María José Granados-Muñoz, Francisco Javier Gómez-Moreno, Manuel Pujadas, Lucas Alados-Arboledas

#180 Measurement of fugitive emissions during harbor operations - *Alexandra Silva, Susana M Almeida, Maria Carmo Freitas, Andreia Marques, Ana Isabel Silva, Carla Ramos, Teresa Pinheiro*

#199 Deep geological conditions and constrains for CO2 storage in Setúbal Peninsula, Portugal - *Susana Machado, Carlos Rosa, Diogo Rosa, José Sampaio, Helena Amaral, João Carvalho, Júlio Carneiro, Augusto Costa*

#28 Determination of NO2 amount in polluted air masses over Évora- Portugal, during 2010 with remote sensing measurements – *Ana Filipa Domingues, Daniele Bortoli, Ana Maria Silva*

#421 Thermodynamic modeling, exergy and exergoeconomic analysis & optimization of Mahsgar gas turbine power plant using an evolutionary algorithm - *Arash Almasi*

#102 Aerosol size distribution in a rural environment: influence of ambient atmosphere and wildfires - *Amaya Castro, Ana Calvo, Elisabeth Alonso, Maria Fernandez-raga, Covadonga Palencia, Roberto Fraile*

#279 Study of aerosol optical properties over the Iberian Peninsula based on 9-year MODIS dataset - *María José Granados-Muñoz, David Pozo-Vázquez, Juan Luis Guerrero-Rascado, Lucas Alados-Arboledas*

#414 Pressurized fluidized bed combustion and gasification based of a combined cycle power generation system: application for Turkish lignite - *Murad A. Rahim*

#430 The Kinetics of Carbon Dioxide Absorption by Blend of Aqueous Amine Solution of N-(2-hydroethyl) piperazine and Tris(hydroxymethyl) aminomethane - *Cyril Sunday Ume*

#166 Heavy Metal Resistant Anaerobic Bacterial Strains from Brewery Wastewater - *Nusara Sinbuathong , Pramote Sirirote, Daniel Watts, Suphang Chulalaksananukul*

#202 Rainfall extremes events climatology over the Amazon basin - *María Cleofé Valverde*

#379 CO2 Hydrates as a climate change mitigation strategy: Defini-tion of the Portugal's deep offshore stability zones - *Luís Bernardes*

Time **TUESDAY, JULY 12, 2011**

09.00-10.00 Chair: Francis Meunier
Keynote address 3: "CARBON CAPTURE AND STORAGE; GLOBAL POTENTIAL AND STATUS", John Gale

Auditorium 2

10.00-11.00 Session: CARBON EMISSIONS
Chair: Mourad Bezzeghoud
#51 A projected turning point of China's energy-related CO2 emissions - *Bo Xu, Qie Sun, Ronald Wennersten, Nils Brandt*
#29 Soil CO2 emission to the atmosphere from Furnas volcano (São Miguel Island, Azores archipelago) - *Fátima Viveiros, Teresa Ferreira, Carlo Cardellini, Catarina Silva*
#191 Effective CO2 emission mitigation through coal and energy crops co-gasification - *Adam Smoliński, Natalia Howaniec*

Room 1

Session: SATELLITE OBSERVATIONS
Chair: Daniele Bortoli
#93 Synergetic use of satellite and ground-based data to analyze the characteristics of urban climate over Rome - *Lucia Maria Laurenza*
#172 Satellite observation of urban heat island effect - *Maria A. Zoran*
#169 Westward propagation of satellite derived chlorophyll a across the South Pacific Ocean - *A. Belo do Couto*

11.00-11.20 Refreshment Break

Auditorium 2

- 10.20-13.00** Session: ENERGY TECHNOLOGIES AND EXERGY ANALYSIS
Chair: Arif Hepbasli
- #416** Exergetic Sustainability Evaluation of a Recirculating Aquaculture System - *Adnan Midilli, Haydar Kucuk, Ibrahim Dincer*
- #420** Ocean energy: exergy analysis and conversion - *Antonio F. Miguel, Murat Aydin*
- #250** Exergoenvironmental Analysis of a Trigeneration System Based on Micro Gas Turbine and Organic Rankine Cycles - *Pouria Ahmadi*
- #101** Energy and Exergy Analyses of Cerro Prieto I Geothermal Power Plant - *Stuart James Self, Bale V Reddy, Marc A Rosen*
- #254** - Exergo-environmental analysis of renewable heat based Organic Rankine Cycle (ORC) using different working fluids - *Seyedali Aghahosseini, Ibrahim Dincer*

13.00-14.30 Lunch Break

Room 1

- Specialized Session: CO2 STORAGE AND UTILIZATION
Chair and organizer: Júlio Carneiro
- #165** Carbon sequestration to mitigate the future climatic changes and its adverse effects - *Hossain Md Anawar, S.M. Almeida, N. Canha*
- #92** Mitigation Technologies to Lower Greenhouse Gases - *Arangasamy Leela, Munusamy Vivekanandan, Muruges Devatha*
- #194** Coal as an unconventional reservoir for a CO2 safe geological sequestration solution - *Cristina Fernanda Alves Rodrigues, Maria Alzira Pimenta Dinis, Manuel João Lemos de Sousa*
- #379** CO2 Hydrates as a climate change mitigation strategy: Definition of the Portugal's deep offshore stability zones - *Luís Bernardes*
- #111** Heat as by-product or sub-product of CO2 storage in basalt formations - *Diogo Rosa, Rui Rosa*

Time **TUESDAY, JULY 12, 2011**

14.30-15.30 Chair: Pedro Viterbo

Keynote address 4: "TURBULENCE, CLOUDS AND CLIMATE MODELS: TACKLING THE LARGEST UNCERTAINTY IN CLIMATE CHANGE PROJECTIONS ", João Teixeira

Auditorium 2

15.30-17.30 Session: ATMOSPHERE AND CLIMATE

Chair: Byeong-Kyu Lee

#104 Spatial aggregation of surface temperature trends in the last 100 years - *António Rodrigues Tomé, Pedro M. A. Miranda*

#248 Spring and summer time extreme temperatures in Iberia in relation to circulation types frequency - *Sonia Fernández-Montes, Fernando S. Rodrigo, Stefanie Seubert*

#122 Statistical Approach to Estimate the Impact of Climate Change in Daily Ozone Concentrations - *Pedro Garrett Lopes, Mário Pulquério, Elsa Casimiro*

#49 Analysis of total ozone trends in the Iberian Peninsula using satellite data - *Manuel Anton, Daniele Bortoli, Pavan S. kulkarni, Maria J. Costa, Ana F. Domingues, Ana M. Silva, Lucas Alados-Arboledas*

#177 Impact of Maritime Air Mass Trajectories on the Western European Coast Urban Aerosol - *Susana Almeida, Maria Carmo Freitas, Ana Isabel Silva, Alexandra Silva, Cátia*

Room 1

Specialized Session: NETWORKING AND TECHNOLOGY TRANSFER ON CLIMATE CHANGE AND RENEWABLE ENERGY

Chair and organizer: Walter Leal

#267 Networking and technology transfer on climate change: the international climate change information programme - *Walter Leal*

#209 CELA - Network of Climate Change Technology Transfer Centres in Europe and Latin America - *Franziska Mannke*

#246 The Role of Renewable Energy in addressing the Challenge of Climate Change in the Pacific Region - *Veronika Schulte*

#67 Vulnerability and Impact of climate change on water resources in semi-arid areas; example of the Essaouira Basin (Morocco) - *Mohammed Bahir*

#170 Impact of Climate Change on the Energy System at the Santiago Metropolitan Region - *Luis Santiago Vargas*

Repolho, Ho Manh Dung, Alexandre Caseiro, Casimiro Pio

#54 Application of KLIMA algorithm to CO2 retrieval from IASI/METOP-A observations and comparison with GOSAT/TANSO-FTS products - Lucia Maria Laurenza, Ugo Cortesi, Samuele Del Bianco

#394 How can we feed nine billion people while reducing GHG emissions? - Bruce Campbell, Sonja Vermeulen, James Hansen, Andrew Jarvis, Phil Thornton, Eva Wollenberg

Time

WEDNESDAY, JULY 13, 2011

09.00-10.00

Chair: Marc Rosen

Keynote address 5: "IMPACTS OF CLIMATE CHANGE ON BIODIVERSITY, AND THE IMPLICATIONS FOR CONSERVATION", Miguel Araújo

Auditorium 2

10.00-11.00

Session: BIOENERGY

Chair: Adnan Midili

#13 Production of Biogas as a Source of Renewable Energy through Co-Digestion of Agricultural Residues with Poultry Manure - Burak Demirel

#161 Environmental benefits derived from the anaerobic digestion of agrifood industry wastes - Almudena González, Francisco Cuadros, Antonio Ruiz, Fernando López

Room 1

Session: SUSTAINABLE SYSTEMS

Chair: Fernando López

#66 Analysis of life cycle of plants from point of energy balance - Imre Benko

#143 A Sustainable Technology for the Treatment of Piggery Wastewaters - Kathryn Noelle Carney

#167 Effect of the solid content on biogas production from *Jatropha curcas* seed cake - *Nusara Sinbuathong, Junko Munakata Marr, Boonsong Sillapacharoenkul, Suphang Chulalaksananukul*

#426 Environmental impact assessment of sustainable hydrogen, steam and electricity trigeneration through integrated gasification and Cu-Cl cycle - *Seyedali Aghahosseini, Ibrahim Dincer, Greg Naterer*

11.00-11.20 Refreshment Break

Auditorium 2

**11.20-13.00 Session: REGIONAL CLIMATES
Chair: : Pedro Miranda**

#52 Influence of air-conditioning management on heat island in Paris in a global warming perspective - *Francis Emile Meunier, Brice Tremeac, Pierre Bousquet, Cécile Demunck, Grégoire Pigeon, Valéry Masson, Colette Marchadier, Michèle Merchat, Pierre Poeuf*

#48 Time-series regression model for prediction of monthly and daily average global solar radiation in Al Ain City, UAE - *Hassan A.N. Hejase, Ali H. Assi*

#238 Changes in drought characteristics for Romania projected by a regional climatic model - *Constanta Boroneant*

#265 Climate change signals at local scale over Ethiopia - *Gizaw Mengistu Tsidu, Eyale Bayable*

Room 1

**Specialized Session: BIODIVERSITY AND CLIMATE VARIATION
Chair and organizer: Miguel Araújo**

#146 Linking protected areas to rescue biodiversity from climate change impacts - *Diogo A. Alagador*

#97 Assessment of Mediterranean Evergreen Oak (*Quercus suber* L.) Woodlands Loss. Consequence of climate changes effects? A case study at South-Western Portugal - *Augusta Costa, Manuel Madeira*

#251 Effects of climate change on flowering times of *Narcissus bulbocodium* L. in Portugal - *Patrícia Alegria, Alfredo Rocha, Paulo Silveira*

#196 Impacts of Climate Change on Wine Production: A Global Overview and Regional Assessment in the Douro Valley of Portugal - *Gregory V. Jones*

#117 The different ways of living with climate change - the region semi-arid - River Basin Bridget - Pernambuco - Brazil - *Jose A. Leite Fechine*

#200 Doing a jigsaw with pieces missing – the data challenges of performing climate change vulnerability assessments - *Marta Bruno Soares, Alexandre S. Gagnon*

13.00 -14.30 Lunch Break

Time WEDNESDAY, JULY 13, 2011

Auditorium 2

Room 1

**14.30-16.00 Session: CLIMATIC ISSUES
Chair: Imre Benko**

**Specialized Session: AIR QUALITY AND GLOBAL WARMING
Chair and organizer: Casimiro Pio**

#382 Climate Sensitivity: Amplification of the Anthropogenic Disturbance of the Climate System - *David Wasdell*

#31 Temporal variations of BTEX compounds in Bursa/Turkey atmosphere - *Sema Yorulmaz, Mihriban Civan, Gurdal Tuncel*

#139 Seasonal temperature fluctuation and change in Turkey - *Hüseyin Toros, Ali Deniz, Mustafa Coşkun, Ali Öztürk*

#129 African dust contribution to ambient aerosol levels across central Spain: Characterization of long-range transport episodes of desert dust - *Pedro Salvador, Begoña Artiñano, Francisco Molero, María del Mar Viana, Jorge Pey, Andrés Alastuey, Xavier Querol*

#197 Changes in hydrological regime of the large russian freshwater lakes under global warming - *Natalia Alexandrovna Lemeshko*

#183 Chemical Elements of Airborne Particulate at Pico Mountain, Azores Island (Portugal) Collected in Period of August 2008 to June 2009 as Determined by k0-INAA - *Ho Manh Dung, Maria Do Carmo Freitas, Isabel Dionísio*

#135 The modeling of extremum daily temperature series by spectral methods - *Vincenzo Malvestuto, Olivia Testa, Maria Carmen Beltrano*

#221 Influence of vehicular transport on air pollution in Oporto, Portugal: Particulate-bound polycyclic aromatic hydrocarbons - *Klara Slezakova, Cristina Delerue-Matos, Maria Alvim-Ferraz, Simone Morais, Maria C. Pereira*

#241 Can climate drive speciation? *M. R. Paiva, H. Santos, C. Kerdelhué, E. P. Mateus, M. R. Branco*

16.15

DEPARTURE BY BUS TO BOAT TRIP IN THE TAGUS RIVER

SOCIAL PROGRAM

17.00-19.00

BOAT TRIP IN THE TAGUS RIVER MOUTH

19.00-20.00

WALK IN OLD DOWNTON LISBON TO THE "CASA DO ALENTEJO"

20.00

CONFERENCE DINNER AT "CASA DO ALENTEJO"

Time **THURSDAY, JULY 14, 2011**

09.00-10.00 Chair: Francisco Cuadros
Keynote address 6: "EXERGY, WORK AND ECONOMIC GROWTH – PAST AND FUTURE", Robert Ayres

Auditorium 2

Room 1

10.00-11.00 Session: SOCIAL ISSUES
Chair: J. Leite Fechine

Session: ATMOSPHERIC MEASUREMENT SYSTEMS
Chair: Rui Salgado

#41 ICTs, the environment and climate changes - *Mounira Rouainia, Mohamed Salah Medjram*

#81 Change Detection of Surface Temperature and its Consequence Using Multi-Temporal Remote Sensing Data and GIS Application to Tapi Basin of India - *Sarjerao M Bhamare, Vikram Madhukar Agone*

#133 Education in the field of environmental protection as the dominant factor for improvement of ecological security - *Marija Blagojevic*

#217 Ground-based and satellite measurements of stratospheric nitrogen dioxide and ozone over the south of italy - *Daniele Bortoli, Maria Joao Costa, Ana Maria Silva, Giorgio Giovanelli, Francesco Monteleone, Giuseppe Alonge, Fabrizio Anello*

#8 Bringing green energy to Arab schools in the Negev, south of Israel: Solar ovens - *Mahmoud M. Huleihil*

#173 Nuclear power plant's water thermal plume assessment by satellite remote sensing data - *Maria A. Zoran*

11.00-11.15 Refreshment Break

11.15-12.15

Chair: Rui Namorado Rosa

Keynote address 7: "FUTURE ENERGY SCENARIOS - PEAK OIL, PEAK GAS AND PEAK COAL?", Kjell Aleklett

Auditorium 2

12.15-13.15

Session: SOLAR RESOURCES AND APPLICATIONS

Chair: Antonio Joyce

#78 The passive and active strategies to design zero energy buildings. Application to public building in Extremadura - *F. López, A. Redrado, A. Ruiz, F. Cuadros, J. García, M. Cobos, C. Segador*

#25 Utilization of a Parabolic Trough Solar System in a Direct Type Rotary Coal Dryer - *Ehsan Amirabedin, M Zeki Yilmazoglu*

#253 Numerical modeling of surface radiation over Iberian Peninsula with special reference to Portugal - *João Perdigão, Hari Dasari, Rui Salgado, Maria João Costa*

Room 1

Session: CONVENTIONAL ENERGY USES AND IMPROVEMENTS

Chair: Burak Demirel

#85 Operational and environmental costs of a certain ship due to the possible energy losses - *Alper Kilic, Munir Suner*

#39 Reduction of HVAC Energy in Buildings by Incorporating Phase Change Materials - *El Hadi Bouguerra*

#144 Experimental and Numerical Study of Forced Circulation Solar Water Heaters (SWHs)- *Alireza Rostamzadeh*

13.15

CLOSURE - Auditorium 2