Program 7th International Workshop on Solar Air Conditioning

Tuesday, October 31, 2017

KEYNOTE
08:30 Solar Cooling Potential in the MENA Region
Daniel Mugnier, TECSOL

SOLAR COOLING SYSTEM INTEGRATION
Chair: Stephen D. White (CSIRO)
09:00 Welcome to the SolAirCon Workshop
Daniel Mugnier, TECSOL
09:10 Energy Storage for PV-Driven Air-Conditioning for an Off-Grid Resort – A case study
Christoph Luerssen, Solar Energy Research Institute of Singapore (SERIS)
09:30 Solar-Electric Driven Heating and Cooling System with PCM-Storage for Improved Grid Connection
Richard Schex, Bavarian Center for Applied Energy Research (ZAE Bayern)
09:50 Multi-Functional Façade with PV for Solar Autonomous Cooling Applications
Tim Selke, AIT Austrian Institute of Technology GmbH
10:10 First Steps in Design and Simulation of the Control Unit of a Continuous Cooling System Driven by Solar Thermal Energy and Using an Aquifer Thermal Storage
Maryam Al Lawati, GFZ German Research Center for Geosciences
10:30 Coffee Break

INNOVATIONS IN SOLAR COOLING TECHNOLOGY
Chair: Marco Beccali (UNIPA)
11:00 Testing and Simulation of a Solar Diffusion-Absorption Refrigeration System for Low-Cost Solar Cooling in India
James Freeman, Imperial College London
11:20 Efficient Solar Cooling by Using Variable Effect LiBr-H2O Absorption Chiller and Linear Fresnel Solar Collector with Cavity Receiver
Yanjun Dai, Shanghai Jiao Tong University
11:40 The “All in One” Smart Solar Cooling System
Esam Elsarrag, GORD
12:00 Development of a Low Carbon Coupling Device for Solar Cooling (Photovoltaic + Heat Pump)
Daniel Mugnier, TECSOL
presented by: Philippe Esparcieux, ATISYS CONCEPT
12:20 Assessment of a Solar Powered Refrigerator Equipped with Thermal Storage for a Dairy Application
Adriana-Clemencia Coca Ortegón, Universitat Rovira i Virgili
Daniel Neyer, University of Innsbruck
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<th>Time</th>
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<td>13:00</td>
<td>Lunch</td>
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<td>14:00</td>
<td>POSTER SESSION</td>
<td>Solar Refrigeration and Solar Air Conditioning</td>
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<td>TUE-13</td>
<td>Design Development and Performance Evaluation of Solar Energy Driven Micro-Cold Storage for Fruits and Vegetables Produce of Smallholder Farmers in Ethiopia</td>
<td>Biruk Abate, Bahir Dar University, Bahir Dar Institute of Technology</td>
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<td>TUE-14</td>
<td>Solar Thermal Operated Life-Supporting Systems Based on Ejector Technologies</td>
<td>Olexiy Buyadgie, Wilson Engineering Technologies presented by: Oleksii Drakhnia, Kyushu University</td>
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<td>TUE-15</td>
<td>Model-Based Simulation and Optimization of a Solar Assisted Absorption Air-Conditioning System with Dynamic Cooling Demand</td>
<td>Ghulam Qadar Chaudhary, University of Engineering and Technology Taxila Pakistan</td>
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<td>TUE-16</td>
<td>Increasing the Efficiency of the Solar Thermal Assisted Refrigeration Technology</td>
<td>Olexiy Buyadgie, Wilson Engineering Technologies</td>
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<td>TUE-17</td>
<td>Solar-Powered Air-Conditioning System Using Absorption Refrigeration Cycle and High Efficiency Cooling Technologies</td>
<td>Caterina Fella, Politecnico di Milano</td>
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<td>TUE-18</td>
<td>Theoretical Analysis of Indirect and Direct Solar Regenerators for Liquid Desiccant Systems</td>
<td>Fernando Manuel Gomez Castro, University of Applied Sciences Stuttgart</td>
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<td>TUE-19</td>
<td>Experimental Study of a Solar Collector/Regenerator for Liquid Desiccant Systems</td>
<td>Fernando Manuel Gomez Castro, University of Applied Sciences Stuttgart</td>
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<td>TUE-20</td>
<td>Highest Efficiency Ice Storage for Solar Cooling Systems – Experiences with a Vacuum Ice Slurry Cold Thermal Energy Storage</td>
<td>Christoph Steffan, ILK Dresden presented by: Carsten Heinric, ILK Dresden</td>
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<td>TUE-21</td>
<td>Establishment and Theoretical Analysis of a Solar Driven NH$_3$-H$_2$O Resorption Heat Pump Cycle</td>
<td>Teng Jia, Shanghai Jiao Tong University</td>
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<td>TUE-22</td>
<td>Preliminary Assessment of a Solar Absorption System for Air Conditioning Applications</td>
<td>Jose Camilo Jimenez Garcia, Instituto de Energias Renovables, UNAM</td>
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<td>TUE-23</td>
<td>Potential Application of Commercial Refrigerants as Adsorbate in Adsorption Refrigeration System</td>
<td>Michael John, University of Dar es Salaam</td>
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<td>TUE-24</td>
<td>Modeling and Optimization for Contribution Rates of Solar Heating and Cooling Systems in Building Energy-Saving</td>
<td>Bojia Li, China Academy of Building Research</td>
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<td>TUE-26</td>
<td>Control Strategy Approach Based on the Operational Results of a Small Capacity Direct Air-Cooled Libr-Water Absorption Chiller</td>
<td>Joan Farnós, Technical University of Catalonia-BarcelonaTech presented by: Joaquim Rigola, Universitat Politècnica de Catalunya</td>
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TUE-27 A Simple Approach for the Simulation and Characterization of Solar Driven Absorption Cooling Systems Based on the Characteristic Equation Method
Martin Schröder, Technische Universität Berlin

TUE-28 Increase of the Ventilation Effectiveness of Solar Chimneys with Consideration of Wind-Effects Applying CFD Simulations and Measurements
Lukas Schwan, University of Applied Sciences Munich

TUE-29 Preliminary Assessment of a Solar Absorption Air Conditioning System Developed and Installed in a Coastal Zone of Mexico
Pedro Arturo Guillermo de Jesús Soto Parra, Instituto de Energías Renovables UNAM

TUE-30 Experimental Study on Solar Driven Dehumidification System with Silica Gel Coated Heat Exchanger
Zhao Yao, Shanghai Jiao Tong University

15:30 Coffee Break

PRACTICAL EXPERIENCE WITH SOLAR COOLING
Chair: Christian Schweigler (Munich University of Applied Sciences)

16:30 Practical Efforts on SHC System with Passive House in China
Wei Zheng, Yazaki Energy System Corporation Beijing

16:50 Monitoring and Energy Performance Assessment of an Advanced Dec Hvac System in Morocco
Marco Beccali, Università di Palermo, Dept. DEIM

17:10 Solar Cooling Around the World – Innovative Low Carbon Solutions for Nicaragua, Singapore and Austria
Nicole Olsacher, S.O.L.I.D. Gesellschaft für Solarinstallation und Design mbH
presented by: Christian Holter S.O.L.I.D. Gesellschaft für Solarinstallation und Design mbH

17:30 First Solar-Driven Air Conditioning System in Kuwait Using Double-Stage Absorption Chiller and High-Vacuum Solar Thermal Flat Plates
Jonathan Koifman, TVP Solar

17:50 Performance Analysis of Solar Desiccant Cooling System Integrated with M-Cycle Evaporative Cooler
Ghulam Qadar Chaudhary, University of Engineering and Technology Taxila Pakistan