

Programme

**International Conference on
Energy Systems and Technologies**

ICEST 2011

**14-17 March 2011
Cairo, Egypt**

Programme of

**International Conference on Energy
Systems and Technologies**

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Cairo, Egypt**

Science Partners

**Egyptian Nuclear Physics Association (ENPA)
Science and Technology Forum (STF)**

Conference Chairman
Prof.Dr. M.N.H. Comsan

Conference Coordinator
Dr. S.R. Atalla

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|--------|--|-----|--|
| AEA | Atomic Energy Authority | HTI | Higher Technological Institute, 10 th of Ramadan City |
| NCNSRC | National Centre for Nuclear Safety and Radiation Control | QIT | Qalyoubeya Institute of Technology, Qalyoubeya |

ICEST 2011
Conference Timetable

| Time | Mon., 14 March | Tue., 15 March | Wed., 16 March | Thu., 17 March |
|-------------|-------------------|-----------------------|-------------------|-------------------|
| 9:00-10:30 | Reg./OS | GBE1/NET2 | Full | SMC/IET2 |
| 10:30-11:00 | Tea/Coffee | Tea/Coffee | Day | Tea/Coffee |
| 11:00-13:00 | KN1 | KN2/ Peak Oil | Giza/Cairo | CET2/ GBE2 |
| 13:00-14:00 | Break | Break | (Pyramids/ | Conf. Lunch |
| 14:00-15:30 | NET1/ESD | IET1/EME2 | Egyptian | CS |
| 15:30-17:00 | CET1/EME1 | Poster Session | Museum) | |
| 19:00-22:00 | Fatimide Cairo | Cruise on the Nile | Free Evening | |

Programme abbreviations:

| | | | |
|------------|-------------------------------|------------|----------------------------------|
| OS | Opening Session | GBE | Green Buildings & Environment |
| KN | Keynote Talk | IET | Innovations in Energy Technology |
| CET | Clean Energy Technologies | NET | New & Emerging Technologies |
| EME | Energy Management & Economics | SMC | System Modeling & Computation |
| ESD | Energy Storage & Distribution | CS | Closing Session |

ICEST 2011

Conference Programme

Monday, 14 March 2011

- 9:00 - 10:30** **Registration/Opening Session**
- 10:30 - 11:00** **Tea/Coffee**
- 11:00 - 13:00** **Session KN1 [38/39/128]**
Chairperson: M.R. El-Tahlawy
- 1 Preliminary investigation of high temperature partial oxidation reaction of primary alcohols on platinum surface as an efficient renewable energy source: **S.R. Atalla**, M.F. Elshahed and S.E. Shalaby [38]
 - 2 Potential utilization of agricultural wastes for CHP production in Egypt: **Ahmed Khozam** [39]
 - 3 The importance of nuclear power in Egypt: **Ali Abd El Nabi** [128]
- 13:00 – 14:00** **Break**
- 14:00 - 15:30** **Session NET1 [7/61/76/94]**
Chairperson: M.N.H. Comsan
- 1 Wind farm micro siting using finite difference method
S. Rajper, **I. Amin** and F. Junejo [7]

- 2 Computational fluid dynamics–based analysis and optimization of Stirling engines: An insightful survey: **Hossam Abdelsattar**, Waleed Talaat, Mahmoud Abdelnasser and Mohamed Leheta [61]
- 3 New plasma technology for solid fuel ignition and combustion: V.E. Messerle, A.S. Askarova, A.O. Nagibin and O.A. Lavrichshev, **A.B. Ustimenko** [76]
- 4 Glycerol and methylesters decomposition in the supercritical production of biodiesel: potential alternative to improve fuel characteristics and yield: **Victor F. Marulanda** [94]

14:00 - 15:30

- Session ESD [6/18/43/75]**
Chairperson: T. El-Tablawy
- 1 Smart grid and the role of distributed generation technologies in sustainable electric power system: **A. Zahedi** [6]
 - 2 Investigating the impact of HTS on electrical distribution networks: **Mustafa Ali Elsherif** and Philip Taylor [18]
 - 3 Power loss evaluation of HVDC and DC HTS transmission solutions for round 3 offshore wind farms in the United Kingdom: **Mustafa Ali Elsherif** [43]
 - 4 Design of pneumatic flow control for wind energy penetration and storage: **E.M. El-Beheiry** [75]

- 15:30 - 17:00** **Session CET1** [21/33/123]
Chairperson: I. Shanshoury
- 1 Performance investigation of solid oxide fuel cell system: **A. Musa**, A. Agina and M. Talbi [21]
 - 2 An insightful survey into green energy based power plants: the concept, challenges and research-worthy solutions: **Samar Raafat Amer** [33]
 - 3 Clean gasoline fuels: **Hamdy Abou El Naga** [123]

- 15:30 - 17:00** **Session EME1** [9/27/78/88/113]
Chairperson: H.F. Aly
- 1 Challenges and risks surrounding Arab petroleum (in Arabic): **Hussein Abdallah** [9]
 - 2 Energy from ethanol: evaluation of greenhouse gas emission from sugarcane utilization (case study of the State of Minas Gerais, Brazil): Juan Carlos Claros Garcia and **Eduardo von Sperling** [27]
 - 3 Energy, agriculture and climate change under tight EU regulations: **Piotr F. Borowski** [78]
 - 4 Will the future European energy market be a German battle with Russian and Swedish actors in the centre of it? - Analyzing major players with the pattern shown by mergers and acquisitions: **Elmira Abakarova** and Henrik Blomgren [88]

- 5 Volatility transmission between international oil prices and stock returns: Evidence from India: **Anand.Babu** [113]

19:00 - 22:00 **Fatimide Cairo***

Tuesday, 15 March 2011

- 9:00 - 10:30** **Session GBE1** [28/32/124/130]
Chairperson: M. Samir Abdel-Azim
- 1 Green evaluation for an experiment of high-rise apartment building as mainstream building practices in Egypt: **Usama Elfiky** [28]
 - 2 A new intelligent reliable environmental friendly power unit for superyachts: **Ali Ibraheem**, Ibraheem Hamid and Mohamed Adel [32]
 - 3 Development of prototype structure for low cost and energy efficient house by utilising palm tree fronds: M. Samir Abdel-Azim and **H.R. Shalaby** [124]
 - 4 UV-VIS absorption and characterization of the synthesized TiO₂ for uranium uptake and energy applications: **Abram F. Bishay** [130]

- 9:00 - 10:30** **Session NET2** [22/40/91/96/132]
Chairperson: A.B. Ustimenko
- 1 Calophyllum inophyllum L. as an energy source and environment friendly bio-diesel: **A.E. Atabani**, A.S. Silitonga, H.H. Masjuki, T.M.I. Mahlia-1 and Irfan Anjum Badruddin [22]
 - 2 Concentrating photovoltaic model for low latitude regions: **Ahmad Zahedi** [40]
 - 3 Half cell and full cell nickel oxide based supercapacitor: **Hao Gong**, Guangxia Hu, Chunghua Tang and Zhe Tang [91]
 - 4 Investigation of behavior and application of fuel cells and making a laboratory specimen: **Seyedmehdi Sharifian**, Rabeah Mehravar, Arezou Ghadi and Reza Miremadoddin [96]
 - 5 A research to determine the effects cotton seed methyl esters diesel mixtures over the engine emissions performance: Cihan Bayindirli and **Mustafa Acaroglu** [132]

10:30 - 11:00 **Tea/Coffee**

- 11:00 - 13:00** **Session KN2 / Peak Oil** [12]
Chairperson: A.A. El-Kady
- 1 Energy sector and climate change: **M.N.H. Comsan** [12]

13:00 - 14:00 **Break**

- 14:00 - 15:30** **Session IET1** [81/90/121/133]
Chairperson: M.N.H. Comsan
- 1 Generation of electrical energy using municipal water pipe line: **Ali Riza Gün-1** and Mehmet Kurban [81]
 - 2 Methanation of CO and CO₂ in a nonthermal plasma-catalytic reactor: **Young Sun Mok** and Eun-Jin Jwa [90]
 - 3 Materials and methods for using the energy of atmosphere ionization on and around pyramid structures as a source of alternative energy: **Ikhtiyar Abdullayev** [121]
 - 4 Effects of bioethanol-diesel fuel blends on performance of a diesel engine: **Hasan Aydogan**, Mustafa Acaroglu and A. Engin Ozcelik [133]

- 14:00 - 15:30** **Session EME2** [8/17/45/56]
Chairperson: A. Khozam
- 1 Incorporating community governance in planning decentralised sustainable energy security: **Diane Costello** [8]
 - 2 Availability, reliability and performance analysis of a wind farm in India: **Iniyam S.**, Joselin Herbert G.M., Suganthi L and Ranko Goic [17]
 - 3 Exergy analysis for evaluation of energy consumptions in an olefin plant: **A.A. Changalvaie** and Sh. Fegghi [45]
 - 4 Economic evaluation and electricity cost of grid-connected solar photovoltaic system in Egypt: **A. Zahedi** [56]

15:30 - 17:00 **Poster Session** [30/37/48/57/62/95/98/100/
105/126/127/129]

19:00 - 22:00 **Cruise on the Nile***

Wednesday, 16 March 2011

9:30 - 22:00 **Social and Culture Events - Full Day**
Giza/Cairo*

(*) At extra charge. For more information contact Conference Treasurer.

Thursday, 17 March 2010

9:00 - 10:30 **Session SMC** [24/72/74/82/116]
Chairperson: H. Motaafy

- 1 Effect of parasitic resistances and diode ideality factor on the characterization parameters of photovoltaic modules: MATLAB simulation study: H.M.B. Metwally, M.A. Farahat, and **A.A.A. Mehrem** [24]
- 2 CPU thermal management of personal and notebook computer (transient study): T. Abbas, K. M. Abd_elsalam and Kh. Khodairy [72]

- 3 Thermo-fluid studies of free-surface motion: Osama A.Shawky, Mohamed N. Sabry, Badr Saqr, Khaled Khodeir and Khalil M. Abd-ElSalam [74]
- 4 Using weighted least square method for Weibull distribution function in wind power applications: **Mehmet Kurban**, Yeliz Mert Kantar and Fatih Onur Hocaoglu [82]
- 5 Predicting performance of bioclimatic residential designs using computational fluid dynamics: **Hazem Elzarka** [116]

9:00 - 10:30 **Session IET2** [42/68/77/97/118]
Chairperson: E. Khalil

- 1 Innovation of adding additive to bio-diesel produced from Jatropha curcas L. as a way to increase Cetane number in diesel engine: A review: A.S. Silitonga, **A.E. Atabani**, A. Ghofur, H.H. Masjuki, T.M.I. Mahlia, Irfan Anjum Badruddin and A.H. Sebayang [42]
- 2 Experimental study of RDF gasification for power generation : University's RDF model: **Somrat, Kerdsuwan**, Krongkaew Laohalidanond, Somphot Cherdpong and Tada Uthaiattikul [68]
- 3 Solid fuel plasma gasification as a clean technology of synthesis gas production: **V.E. Messerle**, A.B. Ustimenko and E.F. Osadchaya [77]
- 4 Comparison of metallic bipolar plates for PEM fuel cells: Mansour Shirvani, Mohammadbagher Limue, **Seyedmehdi Sharifian** and Arezou Ghadi [97]

- 5 Performance analysis of 3.6 kW rooftop grid connected photovoltaic system in Egypt : **Ahmed Elhodeiby** [118]

10:30 - 11:00 **Tea/Coffee**

11:00 - 13:00 **Session CET2** [47/52/125]
Chairperson: S.R. Atalla

- 1 WI-TI: An optimized green energy farm capable of solving Egypt energy crisis based on wind and marine current energies: Ahmed El-bastawesy, **Islam Adel**, Omar Fathi, Mohamed Fouad, Bassam Salem, Ahmed El-sayed, Ehab Eldin Heeba and Mohamed Refaa [47]
- 2 The introduction and optimization of distributed energy recourse system in a low-carbon aimed sustainable “Compact Block”: **Liyang Fan**, Weijun Gao and Zhu Wang [52]
- 3 Technology of transferring natural gas to different petroleum products (GTL): **Hamdy Abou El Naga** [125]

11:00 - 13:00 **Session GBE2** [14/29/51/60/99/131]
Chairperson: M. Samir Abdel-Azim

- 1 Energy performance in built environment: Green buildings concepts & standards: **Essam E. Khalil**, F. Asme, F. Aiaa and F. Ashrae [14]
- 2 Potential analysis on waste 4energy management in low-carbon demonstration area Kitakyushu with GIS: **Ru Ye**, Liyang

Fan, Hidetoshi Fukahori and Weijun Gao [29]

- 3 CO2 emission from buildings and mitigation countermeasures in China: **Hexiang Xu** and Weijun Gao [51]
- 4 Study on the database for energy consumption of commercial building (DECC) situation of energy consumption and CO2 discharge in Kitakyushu education facilities: **Yongzhi Gao**, Toshiyuki Watanabe, Weijun Gao and Hirotooshi Yoda [60]
- 5 Study on low-carbon city construction of Kitakyushu City in Japan: **Liu Jianan** [99]
- 6 Effects of bioethanol-diesel fuel blends on emissions of a diesel engine: **Hasan Aydogan**, Mustafa Acaroglu and A. Engin Ozelik [131]

13:00 - 14:00 **Conference Lunch**

14:00 - 15:00 **Closing Session**
 Conference Conclusions and
 Recommendations
 Conference Closing

برنامج

المؤتمر الدولي لنظم وتكنولوجيا الطاقة

ICEST 2011

المشاركة العلمية

الجمعية المصرية للفيزياء النووية
جمعية منتدى العلم والتكنولوجيا

14-17 مارس 2011
القاهرة - جمهورية مصر العربية

برنامج

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