



ACCADEMIA NAZIONALE DEI LINCEI

International Conference **ENERGY CRISIS, WATER SHORTAGE AND CLIMATE CHANGES IN THE MEDITERRANEAN AREA: THE INVOLVEMENT OF CHEMISTRY**

2 - 6 May 2008

Castiglione della Pescaia (Grosseto - Italy)

INTERNATIONAL ORGANIZING COMMITTEE

Salvatore Califano (Italy), Sergio Carrà (Italy), Christos Flytzanis (France), Venice K. Gouda (Egypt), Joshua Jortner (Israel), Emilio Picasso (Italy), Ugo Romano (Italy), Luis Vásquez (Spain), Nathalie Santini (Accademia Nazionale dei Lincei Secretariat, Italy).

INTERNATIONAL ADVISORY COMMITTEE

Sultan T. Abu-Orabi (Jordan), Vincenzo Balzani (Italy), Aaron Ciechanover (Israel), Mostafa A. El-Sayed (USA/Egypt), Giovanni Giacometti (Italy), Dweik Hasan Salah (Palestinian Authority), Bassam Hayek (Jordan), Jean Marie Lehn (France), Lamberto Maffei (Italy), Costas Papanicolas (Cyprus), Gregoris Stephanopoulos (USA/Greece), Francisco Valero (Spain), Ahmed Zewail (USA/Egypt).

THE CONFERENCE

Problems connected to the energy crisis, climate changes and water shortage were dramatically increasing in the last decade and represent today a major obstacle to the socio-economical development of a large number of countries. The problems are particularly important in the Mediterranean area, owing to its high natural climatic variability, to its peculiar geographical situation and to its millenary history of fragmentation.

For these reasons the Accademia Nazionale dei Lincei has decided to organize a meeting in which highly qualified experts from all countries of the Mediterranean region are asked to present their opinions and suggestions and to analyse the future actions to ensure a sustainable future to the Mediterranean area.

Conference site: The conference will be held in the four star hotel "Riva del Sole" located on the sea shore at the village of Castiglione della Pescaia, one of the most beautiful resort areas of Tuscany. Castiglione della Pescaia is easily accessible by train or bus from Rome, Florence and Pisa. Detailed information can be found on the following website: www.rivadelsole.it

Conference Secretariat: Dr. Nathalie Santini
Accademia Nazionale dei Lincei,
Via della Lungara 10, 00165 Rome, Italy
Email: santini@lincei.it

CONFERENCE PROGRAMME

FRIDAY MAY 2nd

Afternoon session:

Climate changes I

16.00 - 16.20	Welcome Greetings
16.20 - 17.10	Costas PAPANICOLAS: <i>Climate Change, Energy and Water Crisis: Manifestations of the physical basis of globalization</i>
17.10 - 18.00	Sylvie JOUSSAUME: <i>Past and future climate changes with a focus on the Mediterranean Region</i>
18.00 - 18.20	Coffee Break
18.20 - 19.10	José Luis SANCHEZ GOMEZ: <i>Storm activity and precipitation from different points of view: microphysics, radar meteorology, mesoscale modeling, hail climatology and trends</i>
19.10 - 20.00	Franco PRODI: <i>Climate changes: natural and antropic causes</i>
20.00 - 22.00	Dinner

SATURDAY MAY 3rd

Morning session:

Climate changes II

09.00 - 09.50	Hervé LE TREUT: <i>The mechanism of climate science in response to greenhouse increase and the associated uncertainties</i>
09.50 - 10.30	HRH Princess Sumaya BINT EL HASSAN: <i>El Hassan Science City; making a change to adapt for climate change</i>
10.30 - 11.20	Euripides STEPHANOU: <i>Eastern Mediterranean: a crossroad of toxic pollutants</i>
11.20 - 11.40	Coffee Break
11.40 - 12.20	Giorgio FIOCCO: <i>Brief survey of modern instruments for the study of the atmosphere</i>
12.20 - 12.40	Tatiana DI IORIO: <i>Transport of desert dust in the Mediterranean basin</i>
12.40 - 13.00	Alcide G. DI SARRA: <i>Radiative effects of desert dust</i>
13.00 - 15.00	Lunch

Afternoon Session:

Water shortage I

15.00 - 15.50	Gideon DAGAN: <i>Modeling of Water flow and pollutant transport by groundwater</i>
15.50 - 16.40	Andrea RINALDO: <i>River networks and ecological corridors</i>
16.40 - 17.00	Coffee Break
17.00 - 17.50	Manuel R. LLAMAS: <i>The groundwater development silent revolution in the EU Southern Member States</i>
17.50 - 18.30	Guido VISCONTI: <i>Hydrological and meteorological changes related to the land uses variations in the Mediterranean Region</i>
18.30 - 20.00	ROUND TABLE - CLIMATE: Joshua Jortner, Sylvie Joussaume, Hervé Le Treut, Franco Prodi, Costas Papanicolas, Euripides Stephanou, Manuel R. Llamas, Dweik Hasan Salah
20.00 - 22.00	Banquet

SUNDAY MAY 4th

Morning session

09.00 - 09.50

Water shortage II

Venice K. GOUDA: *The role of chemistry in mitigating water shortage threats*

09.50 - 10.40

Manuel R. LLAMAS: *The role of the advances of Science and Technology to solve the water problems*

10.40 - 11.10

Dweik HASAN SALAH: *The water crises in Palestine. Health and environmental impact*

11.10 - 11.30

Coffee Break

11.30 - 12.20

Marcello BENEDINI: *Availability of the water resources in the Mediterranean countries*

12.20 - 13.00

Mohamed SABRY ABDEL-MOTTALEB: *Field solar photocatalytic decontamination and disinfection of drinking water using low cost compound parabolic collector and paper supported nanostructured TiO₂.*

13.00 - 15.00

Lunch

Afternoon session:

Energy I

15.00- 15.50

To be determined

15.50- 16.40

Gregoris STEPHANOPOULOS: *Combining the chemistry of life with the chemistry of man to generate new sources of liquid transportation fuels*

16.40 - 17.00

Coffee Break

17.00 - 17.40

Costas VAYENAS: *Climate changes, fuel cells and our energy future*

17.40 - 18.20

Manar FAYYAD: *Effect of water quality deterioration on water scarcity in Jordan*

18.20 - 18.50

Omar FASSI-FEHRI: *The question of the energy in Morocco*

18.50 - 19.20

Felix TELLEZ: *Status and perspectives of concentrating Solar Power (CSP) technology and market development*

20.00 - 21.30

Dinner

21.30 - 23.00

ROUND TABLE - WATER: Christos Flytzanis, Marcello Benedini, Venice K. Gouda, Manuel R. Llamas, Gideon Dagan, Manar Fayyad

MONDAY MAY 5th

Morning session:

Energy II

09.00 - 09.50

Jean-Luc DUPLAN: *Fuels from biomass: Prospects and R&D Challenges*

09.50 - 10.40

Sergio CARRA': *The role of chemistry in the incoming energy scenario*

10.40 - 11.30

Maria FLYTZANI-STEPHANOPOULOS: *Novel structures of heterogeneous catalysts for energy sustainability: the case of atomically dispersed gold and platinum in ceria for hydrogen production reactions*

11.30 - 11.50

Coffee Break

11.50 - 12.20

Francesca FERRAZZA: *Photovoltaic technology: current status and future perspectives*

12.20 - 13.00

Vincenzo BALZANI: *The Future of Energy Supply: Challenges and Opportunities*

13.00 - 15.00

Lunch

Afternoon Session:

Energy III

15.00 - 15.50

Ugo ROMANO: *Future Trends in the Oil & Gas Industry: New Production and Upgrading Technologies*

15.50 - 16.40

Iakovos VASALOS: *The role of catalysis for a sustainable environment*

16.40 - 17.30

To be determined

17.30 - 17.50

Coffee Break

17.50 - 18.40

Sultan T. ABU-ORABI: *The necessity for Nuclear power to Jordan*

18.30 - 19.20

Giorgio Mario GIACOMETTI: *Bio-production of hydrogen by photosynthetic water splitting*

19.30 - 21.30

Dinner

21.30 - 23.00

ROUND TABLE - ENERGY: U. Romano, S. Carrà, G. Stephanopoulos, J.L. Duplan, O. Fassi-Fehri

TUESDAY MAY 6th

Morning session:

Conclusions

09.00 - 11.00

ROUND TABLE - INTERNATIONAL SCIENCE TECHNOLOGY COLLABORATIONS IN THE MEDITERRANEAN AREA: Joshua Jortner, Venice K. Gouda, HRH Princess Sumaya Bint El-Hassan, Christos Flyzanis, Manuel R. Llamas, Salvatore Califano

11.00 - 12.30

Conclusions and Farewell greetings

13.00 - 15.00

Lunch