

***TUNISIAN-JAPANESE SEMINAR ON CULTURE, SCIENCE AND  
TECHNOLOGY (TJCST-2005)***

**6<sup>th</sup> Edition**

**7-12 November 2005**

**Melia El Mouradi Palm Marina  
El Kantaoui, Sousse, Tunisia**



[www.ecopark.rnrt.tn/tjasstc.htm](http://www.ecopark.rnrt.tn/tjasstc.htm)

**ORGANISED BY**

**Borj-Cedria Science & Technology Park, Tunisia  
Alliance for Research on North Africa (ARENA), The University of Tsukuba, Japan**

**SUPPORTED BY**

**Ministry of Scientific Research, Technology and Competency Development**

**The Japanese Society for the Promotion of Science (JSPS), Japan  
The University of Tsukuba, Japan  
Japan International Cooperation Agency (JICA), Japan**

**Université du 7 Novembre Carthage, Tunisia  
Université de Sousse, Tunisia  
Institut National de Recherche Scientifique et Technique (INRST), Tunisia**

**The Embassy of Japan in Tunisia  
The Embassy of Tunisia in Japan**

## **ORGANIZATION**

**Borj-Cedria Science & Technology Park, Tunisia  
Alliance for Research on North Africa (ARENA), University of Tsukuba, Japan**

### **CO-CHAIRPERSON (IN TUNISIA)**

#### **Prof. ABDERRABBA Manef**

General Director  
Borj-Cedria Science & Technology Park (Ecopark)  
B.P. 95, 2050 Hammam-Lif, Tunisia  
Tel.: +216.71.430.430  
Fax: +216.71.430.330  
E-mail: [manef@ecopark.rnrt.tn](mailto:manef@ecopark.rnrt.tn)

### **CO-CHAIRPERSON (IN JAPAN)**

#### **Prof. FUJIMURA Tatsuhito**

Director of Gene Experiment Center  
Plant Genetic Engineering  
Graduate School of Life and Environmental Sciences,  
University of Tsukuba  
Tsukuba, Ibaraki, 305-8572 Japan  
Tel & Fax: +81-298-53-4657  
E-mail: [tfujimur@sakura.cc.tsukuba.ac.jp](mailto:tfujimur@sakura.cc.tsukuba.ac.jp)

## **SUPPORT**

### **Ministry of Scientific Research, Technology and Competency Development**

**The Japanese Society for the Promotion of Science (JSPS), Japan  
The University of Tsukuba, Japan  
Japan International Cooperation Agency (JICA), Japan**

**Université du 7 Novembre Carthage, Tunisia  
Université de Sousse, Tunisia  
Institut National de Recherche Scientifique et Technique (INRST), Tunisia**

**The Embassy of Japan in Tunisia  
The Embassy of Tunisia in Japan**

# SCIENTIFIC COMMITTEE

## President

HELAL Ahmed Nouredine  
Rector of the University of Sousse

[Ahmed.helal@fphm.tn](mailto:Ahmed.helal@fphm.tn)

## Co-President

BEN BRAHIM Jemaïel  
Rector of the University of 7 November

## General Coordinator

BENNACEUR Raouf  
Director General  
INRS

[bennaceur.raouf@inrst.rnrt.tn](mailto:bennaceur.raouf@inrst.rnrt.tn)

## Members

### Tunisian Members

#### *Water & Environment*

- BEDIR Mourad, Geo-Resources Laboratory, INRS. [Mourad.bedir@inrst.rnrt.tn](mailto:Mourad.bedir@inrst.rnrt.tn)
- CHAREF Abdlekarim, Geo-Chemistry, Physics and Chemistry of Water Laboratory, INRS. [Abdelkrim.Charef@inrst.rnrt.tn](mailto:Abdelkrim.Charef@inrst.rnrt.tn)
- DHAHBI Mahmoud, Water and Membrane Technologies Laboratory, INRS. [mahmoudd@irsit.rnrt.tn](mailto:mahmoudd@irsit.rnrt.tn)
- GHRABI Ahmed, Wastewater Treatment and Recycling Laboratory, INRS. [ahmed.ghrabi@inrst.rnrt.tn](mailto:ahmed.ghrabi@inrst.rnrt.tn)
- NOUIRA Rafiaa, High College of Health Sciences and Technics, Sousse. [Rafiaa.nouira@rns.tn](mailto:Rafiaa.nouira@rns.tn)
- ZAYANI Khemais, Institut Supérieur des Sciences et Technologies de l'Environnement, [zayani.khemaies@isste.rnu.tn](mailto:zayani.khemaies@isste.rnu.tn)

#### *Biotechnology*

- ABDELLEY Chedly, Adaptation of Plants to Abiotic Stresses, INRS. [chedly.abdelley@inrst.rnrt.tn](mailto:chedly.abdelley@inrst.rnrt.tn)
- AOUBANI Mohamed El Arbi, Vegetables / Micro-organisms Interactions, INRS. [mohamedelarbi.aouani@inrst.rnrt.tn](mailto:mohamedelarbi.aouani@inrst.rnrt.tn)
- BEN HAMOUDA Mohamed Habib, Directeur Ecole Doctorale: Agronomie & Environnement, [benhamouda.medhabib@iresa.agrinet.tn](mailto:benhamouda.medhabib@iresa.agrinet.tn)
- GHORBEL Abdlewahed, Molecular Physiology of Grapevine, INRS. [a.ghorb@inrst.rnrt.tn](mailto:a.ghorb@inrst.rnrt.tn)
- KCHOUK Mohamed Elyes, Aromatic and Medicinal Plants, INRS. [mohamedelyes.kchouk@inrst.rnrt.tn](mailto:mohamedelyes.kchouk@inrst.rnrt.tn)
- MARZOUKI Nejib, INSAT, [mnmarzouki@yahoo.fr](mailto:mnmarzouki@yahoo.fr)
- ZARROUK Mokhtar, Lab of Characterization of Quality of Olive Oil, INRS. [mokhtar.zarrouk@inrst.rnrt.tn](mailto:mokhtar.zarrouk@inrst.rnrt.tn)

#### *Energy*

- BESSAIS Brahim, Laboratory of Photovoltaic and Semiconductors, INRS. [brahim.bessais@inrst.rnrt.tn](mailto:brahim.bessais@inrst.rnrt.tn)
- BOUAZRA Younes, High Institute of Applied Sciences and Technology of Sousse. [Younes.bouazra@fsm.rnu.tn](mailto:Younes.bouazra@fsm.rnu.tn)
- EZZAOUIA Hatem, Laboratory of Photovoltaic and Semiconductors, INRS. [ezzaouia.hatem@inrst.rnrt.tn](mailto:ezzaouia.hatem@inrst.rnrt.tn)
- KERKENI Chakib, Laboratory of Energy and Thermal Processes, INRS. [Chekib.kerkeni@inrst.rnrt.tn](mailto:Chekib.kerkeni@inrst.rnrt.tn)
- ZAGHDOUDI Mohamed Chaker, INSAT. [chaker.zaghoudi@insat.rnu.tn](mailto:chaker.zaghoudi@insat.rnu.tn)

### *Informatics Mathematics*

- BEN HASSINE Lamia, High Institute of Computer Science and Communication, Hammam Sousse, [benhas@sciences.univ-metz.fr](mailto:benhas@sciences.univ-metz.fr),
- BEN NASER Fethi, Multifractales, Endolettes, [fathi.bennasr@sfsm.rnu.tn](mailto:fathi.bennasr@sfsm.rnu.tn)
- BRAHAM Rafik, High Institute of Computer Science and Communication, Hammam-Sousse. [Rafik.braham@ensi.rnu.tn](mailto:Rafik.braham@ensi.rnu.tn)
- KORBA Ouajdi, High Institute of Computer Science and Communication, Hammam Sousse [Korbaa@mail2Engineer.com](mailto:Korbaa@mail2Engineer.com)

### *Culture & Humanities*

- BEN HAMMOUDA Rafik, Faculty of Arts and Humanities of Sousse, [rafikbhmd@yahoo.fr](mailto:rafikbhmd@yahoo.fr)
- BOUHLILA Sadok, Faculté des Lettres de la Manouba, [sbouh@yahoo.com](mailto:sbouh@yahoo.com)
- CHAARANA Moncef, High Institute of Music, Sousse. [moncef.chaarana@ismsr.rnu.tn](mailto:moncef.chaarana@ismsr.rnu.tn)
- CHEBIL Abdelaziz, Arab Medieval Literature and the problem of Literature Unit, Faculty of Arts and Humanities of Sousse, [chebil-az@yahoo.fr](mailto:chebil-az@yahoo.fr)
- DJEDIDI Hafedh, High Institute of Fine Arts of Sousse, [hjdidi@yahoo.fr](mailto:hjdidi@yahoo.fr)
- HADHIRI Ahmed, Arabic Department, Faculty of Arts and Humanities of Sousse, [hedhiria@yahoo.fr](mailto:hedhiria@yahoo.fr)
- MANAI Mabrouk, Faculté des Lettres de la Manouba, [mabrouk.manai@flm.rnu.tn](mailto:mabrouk.manai@flm.rnu.tn)
- MILED Mohamed, ISLT

### **Japanese members**

- ABE Yukuo, Professor, Graduate school of Life and Environmental Sciences, University of Tsukuba, Japan / [abe@sakura.cc.tsukuba.ac.jp](mailto:abe@sakura.cc.tsukuba.ac.jp)
- AOKI Saburo, Professor, Graduate school of Humanities and Social Sciences, University of Tsukuba, Japan / [aoki@lingua.tsukuba.ac.jp](mailto:aoki@lingua.tsukuba.ac.jp)
- FUJIMURA Tatsuhito, Professor, Graduate school of Life and Environmental Sciences, University of Tsukuba, Japan / [tfujimur@sakura.cc.tsukuba.ac.jp](mailto:tfujimur@sakura.cc.tsukuba.ac.jp)
- ISODA Hiroko, Associate professor Graduate school of Life and Environmental Sciences, University of Tsukuba, Japan / [isoda@sakura.cc.tsukuba.ac.jp](mailto:isoda@sakura.cc.tsukuba.ac.jp)
- MIYAZAKI Hitoshi, Professor Graduate school of Life and Environmental Sciences, University of Tsukuba, Japan / [hitomy1@sakura.cc.tsukuba.ac.jp](mailto:hitomy1@sakura.cc.tsukuba.ac.jp)

# TOPIC'S COORDINATORS

*in Japan*

*in Tunisia*

## Math/ICT/Management

FUJIMURA Tatsuhito  
[tfujimur@sakura.cc.tsukuba.ac.jp](mailto:tfujimur@sakura.cc.tsukuba.ac.jp)

SIFI Mohamed  
[mohamed.sifi@fst.rnu.tn](mailto:mohamed.sifi@fst.rnu.tn)  
BEZZARGA Mounir  
[mounir.bezzarga@ipeim.rnu.tn](mailto:mounir.bezzarga@ipeim.rnu.tn)

## Biotechnology

MIYAZAKI Hitoshi  
[hitomy1@sakura.cc.tsukuba.ac.jp](mailto:hitomy1@sakura.cc.tsukuba.ac.jp)

KCHOUK Mohamed Elyès  
[kchouk.lyes@planet.tn](mailto:kchouk.lyes@planet.tn)  
MORIO Takahiro  
[morio@sakura.cc.tsukuba.ac.jp](mailto:morio@sakura.cc.tsukuba.ac.jp)

## Environment/ Energy

ISODA Hiroko  
[isoda@sakura.cc.tsukuba.ac.jp](mailto:isoda@sakura.cc.tsukuba.ac.jp)

BEDIR Mourad  
[mourad.bedir@inrst.rnrt.tn](mailto:mourad.bedir@inrst.rnrt.tn)  
BESSAIS Brahim  
[brahim.bessais@inrst.rnrt.tn](mailto:brahim.bessais@inrst.rnrt.tn)

## Humanities

AOKI Saburo  
[aoki@lingua.tsukuba.ac.jp](mailto:aoki@lingua.tsukuba.ac.jp)

MEJRI Salah  
[salah.mejri@lji.univ-paris13.fr](mailto:salah.mejri@lji.univ-paris13.fr)  
ALLANI Chokri  
[allani@ecopark.rnrt.tn](mailto:allani@ecopark.rnrt.tn)

## TJCST LOCAL ORGANIZING COMMITTEE

### Local Organizing Committee Chairperson

Mr. Manef ABDERRABBA

In Borj Cedria Science and Technology Park (BC STP)

### *Program Setting*

Mr. Mourad BEDIR  
Mr. Brahim BESSAIS  
Mr. Mohamed Elyes KCHOUK  
Mr. Mohammad SIFI  
Mr. Mounir BEZZARGA  
Mr. Takahiro MORIO

### *Financial Administration*

Mr. Manef ABDERRABBA  
Mr. Abdel Wahid GORBEL  
Mr. Chokri ALLANI  
Mr. Mounir BEZZARGA

### *Logistics*

Mr. Abderrazzak BEN FERAJ  
Mr. Mounir BEZZARGA

### *Cultural Program*

Mr. Chokri ALLANI  
Mr. Mohamed Elyes KCHOUK  
Mr. Tarek CHEHIDI  
Mr. Mounir BEZZARGA  
Mr. Takahiro MORIO

### *Internal Organisation*

Ms. Besma M'DIMAGH  
Ms. Hannen BOUHANI  
Ms. Asma BAZINE  
M. Mohammed HICHRI  
M. Slah NAGAZI  
M. Mounir BEZZARGA

### In Sousse

Ms. Latifa KECHICHE  
Ms. Feyrouz SOUSSI,  
Ms. Lobna TRABELSI  
Mr. Imed HOUIMEL  
Mr. Fakhri MAALEL

# SPONSORS

## Universities

Université de Sfax  
Université Virtuelle  
Université de Tunis  
Université de Tunis El Manar  
Université de Monastir  
Université de la Manouba  
Université Ez-Zitouna  
Université de Gafsa  
Université de Gabès  
Université de Jendouba

## Institutes

Institut des Régions Arides de Mednine (IRA)  
Institut National de Recherche et d'Analyse Physico-chimique  
(INRAP)  
Institut National des Sciences et des Technologies Maritimes  
(INSTM)

Institut Supérieur de Sciences et Technologies de l'Environnement  
(ISSTE)  
Institut Préparatoire aux Etudes d'Ingénieur de Tunis (IPEIT)  
Ecole Supérieure de Technologie et d'Informatique (ESTI)  
Ecole Polytechnique de Tunisie (EPT)

## Centers

Centre de Biotechnologie de Sfax (CBS)  
Centre National des Sciences et des Technologies Nucléaires  
(CNSTN)  
Centre des Etudes et des Recherches Economiques et Sociales  
(CERES)  
Centre National Universitaire de Documentation Scientifique et  
Technique (CNUDST)

## Other Institutions

Agence Nationale pour la Maîtrise de l'Energie (ANME)  
Société Tunisienne d'Industrie Automobile (STIA)  
Mediterranean School of Business (MSB)  
ULYSOFT



[www.ecopark.rnrt.tn/tjasstc.htm](http://www.ecopark.rnrt.tn/tjasstc.htm)

## ***BACKGROUND***

Since 1997, Tunisian-Japanese cooperation in science and technology has gone through a new era by starting and intensifying academic meetings. More than thirty joint seminars and symposia have been organized since, accompanied by various exchanges of visiting researchers in both directions. A new leap has been registered since the Japanese Society for the Promotion of Science (JSPS), the main governmental funding institution for research in Japan, has become one of the main official sponsors.

This year's exceptionality is that it will be held as a satellite event and just few days before the World Summit on the Information Society (WSIS).

### ***THE 6<sup>TH</sup> TUNISIAN-JAPANESE SEMINAR ON CULTURE, SCIENCE AND TECHNOLOGY (TJCST)***

The 6<sup>th</sup> Edition of TJCST (TJCST-2005) will be organized by Borj-Cedria Science and Technology Park (Ecopark) and the Alliance for Research on North Africa (ARENA) on November 10th and 11th 2005. It will cover the following topics:

- Informatics, Mathematics, Management of Technological Innovation
- Biotechnology
- Environment including Water Resources in Arid Land and energy
- Humanities including Culture, History, Japanese Language, Anthropology, etc.

### ***SUMMARY EVENT PROGRAM***

7-9 November : Pre-Conference Tour

10-11 November : Event Sessions

12 November (am): Visit to Borj-Cedria Science and Technology Park

### ***CULTURAL PROGRAM***

November 10<sup>th</sup> 2005

20:30

EL KOBBA MUSEUM

Sousse

# ***PROGRAM***

## Wednesday November 9th

16:00 – 23:00: Registration  
18:00 – 19:00 Welcome Party  
19:00 Dinner

## Thursday November 10th

### Opening Ceremony

9:00 **Prof. Manef ABDERRABBA**

General Director  
Borj-Cedria Science & Technology Park (Ecopark)

9:15 **Prof. Tatsuhito FUJIMURA**

Director of Gene Experiment Center  
Plant Genetic Engineering  
Graduate School of Life and Environmental Sciences,  
University of Tsukuba

9:30 **Prof. Ahmed Nouredine HELAL**

Rector of the University of Sousse

9:45 **Prof. Jemaïel BEN BRAHIM**

Rector of the University of 7 November

10:00 **His Excellency**

**The AMBASSADOR OF JAPAN IN TUNISIA**

10:15 **Prof. Taïeb HADHRI**

**MINISTER OF RESEARCH, TECHNOLOGY AND COMPETENCY DEVELOPMENT**

## Thursday November 10<sup>th</sup> (Continued)

### KEYNOTE LECTURE

11:00 – 11:20 **Tunisia-Japan, How to shake hands in Biotechnology**  
Prof. Tatsuhiro FUJIMURA

### Sessions Program

	<i>Biotechnology</i>	<i>Environment/Energy</i>	<i>Information Technology/Maths/Management</i>	<i>Culture &amp; Humanities</i>
11:30 – 13:00	BO1. Stress Resistance (I)	EO1. Water Resources	IO1.	HO1. Linguistic (I)
13:00 – 15:00	<b>Lunch</b>			
15:00 – 16:30	BO2. Stress Resistance (II)	EO2. Applied Geology	IO2.	HO2. Linguistic (II)
16:30 – 17:00	<b>Break</b>			
17:00 – 18:30	BO3. Remediation/ Plant Disease	EO3. Applied Energy	IO3.	HO3. Arts, Music and Folks
18:30 – 19:30	<b>Poster Session</b>			
<b>Cultural Program</b>				

## Friday November 11<sup>th</sup>

	<i>Biotechnology</i>	<i>Environment/Energy</i>	<i>Information Technology/Maths/Management</i>	<i>Culture &amp; Humanities</i>
9:00 – 10:30	BO4. Agronomy/ Biochemistry/ Molecular Biology	EO4. Environmental Assessment	IO4.	
10:30 – 11:00	<b>Break</b>			
11:00 – 12:30	BO5. Medical Genetics	EO5. Water Treatment (I)	IO5.	
12:30 – 15:00	<b>Lunch</b>			
15:00 – 16:30	BO6. Useful Biological Compounds	EO6. Water Treatment (II)	IO6.	
16:30 – 17:00	<b>Break</b>			
17:00 – 18:30	BO7. Novel Biotechnologies	EO7. Materials Sciences in Energy and Environment Saving	IO7.	



# CONTENTS

<b>TUNISIAN-JAPANESE SEMINAR ON CULTURE, SCIENCE AND TECHNOLOGY (TJCST-2005)</b>	<b>1</b>
<b>ORGANIZATION</b> .....	<b>2</b>
<b>CO-CHAIRPERSON (IN TUNISIA)</b> .....	<b>2</b>
<b>CO-CHAIRPERSON (IN JAPAN)</b> .....	<b>2</b>
<b>SUPPORT</b> .....	<b>2</b>
<b>SCIENTIFIC COMMITTEE</b> .....	<b>3</b>
President.....	3
Co-President.....	3
General Coordinator.....	3
Members .....	3
Tunisian Members .....	3
Japanese members.....	3
<b>TOPIC'S COORDINATORS</b> .....	<b>4</b>
<b>TJCST LOCAL ORGANIZING COMMITTEE</b> .....	<b>4</b>
Local Organizing Committee Chairperson .....	4
In Borj Cedria Science and Technology Park (BC STP).....	4
In Sousse.....	4
<b>SPONSORS</b> .....	<b>5</b>
Universities .....	5
Institutes.....	5
Centers .....	5
Other Institutions .....	5
<b>BACKGROUND</b> .....	<b>6</b>
<b>THE 6<sup>TH</sup> TUNISIAN-JAPANESE SEMINAR ON CULTURE, SCIENCE AND TECHNOLOGY (TJCST)</b> .....	<b>6</b>
<b>SUMMARY EVENT PROGRAM</b> .....	<b>6</b>
<b>CULTURAL PROGRAM</b> .....	<b>6</b>
<b>PROGRAM</b> .....	<b>7</b>
Wednesday November 9th .....	7
Thursday November 10th.....	7
Opening Ceremony.....	7
Thursday November 10 <sup>th</sup> (Continued).....	8
KEYNOTE LECTURE.....	8
Sessions Program.....	8
Friday November 11th .....	8
Friday November 11th (Continued) .....	9
Closing Ceremony.....	9
Saturday November 12th.....	9
<b>CONTENTS</b> .....	<b>10</b>
<b>BIOTECHNOLOGY</b> .....	<b>25</b>
<b>SESSION BO 1. STRESS RESISTANCE (1)</b> .....	<b>25</b>
Chairpersons: Abdelwahed GHORBEL and Tatsuhiro FUJIMURA .....	25
<i>BO1. - 11:30 –11:45 [Thursday 10/11/2005]</i> .....	25
Strategies of salt resistance in halophytes .....	25
ABDELLY Chedly .....	25
<i>BO2. - 11:45-12:00 [Thursday 10/11/2005]</i> .....	25
The drought-tolerance tactics of pearl millet, root development vs. osmo-regulation.....	25
KUSAKA Masayuki , Tatsuhiro FUJIMURA .....	25

BO3. - 12:00 – 12:15 [Thursday 10/11/2005].....	26
Genes controlling drought and salinity tolerance: isolation and characterization.....	26
BRINI Faiçal <sup>1</sup> , HANIN Moez <sup>1</sup> , AYADI Malika <sup>1</sup> , GAXIOLA Roberto <sup>2</sup> , BERKOWITZ Gerald <sup>2</sup> , PAGÈS Montserrat <sup>3</sup> & MASMOUDI Khaled <sup>1</sup> .....	26
BO4. - 12:15 – 12:30 [Thursday 10/11/2005].....	27
Salt impact on leaf gas exchanges and yield components of the oil-seed halophyte <i>Cakile maritime</i> .....	27
DEBEZ Ahmed <sup>1</sup> , TAAMALLI Wael <sup>2</sup> , HUCHZERMAYER Bernhard <sup>3</sup> , ZARROUK Mokhtar <sup>2</sup> , ABDELLELY Chedly <sup>1</sup> .....	27
BO5. - 12:30 – 12:45 [Thursday 10/11/2005].....	27
Antioxidant responses of leaves and roots of rock samphire to NaCl stress.....	27
BEN HAMED Karim & ABDELLELY Chedly.....	27
BO6. - 12:45 – 13:00 [Thursday 10/11/2005].....	28
Structural insights into the functional interaction of CHP2 with the Na <sup>+</sup> /H <sup>+</sup> exchanger NHE1.....	28
BEN AMMAR Youssef <sup>1</sup> , TAKEDA Soichi <sup>2</sup> , HISAMITSU Takashi <sup>1</sup> , MORI Hidezo <sup>2</sup> , and WAKABAYASHI Shigeo <sup>2</sup> .....	28
<b>SESSION BO 2. STRESS RESISTANCE (2).....</b>	<b>28</b>
Chairpersons: Chedly ABDELLELY and Shigeo NISHIMURA.....	28
BO7.- 15:00 – 15:15 [Thursday 10/11/2005].....	28
Fruit quality and gene expression in tomato grown under salinity condition.....	28
KOBAYASHI Yoshie, Chiaki MATSUKURA and Shigeo NISHIMURA.....	28
BO8. - 15:15 – 15:30 [Thursday 10/11/2005].....	29
Physiological and biochemical responses to direct iron deficiency in tunisian grapevines.....	29
KSOURI Riadh <sup>1</sup> , MAHMOUDI Henda <sup>1</sup> , LACHAÂL Mokhtar <sup>2</sup> , GHARSALLI Mohamed <sup>1</sup> .....	29
BO9. 15:30 – 15:45 [Thursday 10/11/2005].....	29
Management of the tolerance of grapevine to drought and salinity by the use of biotechnological tools.....	29
MLIKI A., JALLOULI N., DALDOUL S., HANANA M., TOUMI I., BEN JOUIRA H. and GHORBEL A. ....	29
BO10. 15:45 – 16:00 [Thursday 10/11/2005].....	30
The Grapevine WRKY Transcription Factor improves the Tolerance to biotic stress in tobacco.....	30
MZID R <sup>1</sup> , MARCHIVE C <sup>3</sup> , DELUC L <sup>3</sup> , LAUVERGEAT V <sup>3</sup> , BLANCARD D <sup>3</sup> , BARRIEU F <sup>3</sup> , GHORBEL A <sup>1</sup> , HAMDY S <sup>3</sup> and DRIRA N <sup>2</sup> .....	30
BO11. - 16:00-16:15 [Thursday 10/11/2005].....	30
Genetic variation of the model legume <i>Medicago truncatula</i> ( <i>Fabaceae</i> ) lines under drought and salt stress.....	30
BADRI Mounawer <sup>1</sup> , Soumaya ARRAOUADI <sup>1</sup> , Thierry HUGUET <sup>2</sup> , and Mohamed Elarbi AOUANI <sup>1</sup> .....	30
BO12. - 16:15-16:30 [Thursday 10/11/2005].....	31
<b>SESSION BO 3. REMEDIATION / PLANT DISEASE.....</b>	<b>31</b>
Chairpersons: Mohamed El Arbi AOUANI and Hidetaka HORI.....	31
BO13. - 17:00-17:15 [Thursday 10/11/2005].....	31
Role of cell membranes in relation to cadmium-tolerance in indian mustard ( <i>Brassica juncea</i> ).....	31
NOUAIRI Issam <sup>a</sup> , BEN AMMAR Wided <sup>a</sup> , BEN YOUSSEF Nabil <sup>a</sup> , BEN MILED DAOUD Douja <sup>a</sup> , GHORBAL Mohamed Habib <sup>b</sup> , ZARROUK Mokhtar <sup>a,*</sup> .....	31
BO14. - 17:15-17:30 [Thursday 10/11/2005].....	32
Transcriptional responses of <i>Brassica juncea</i> to cadmium.....	32
AKIHIRO Takashi, Sayo YOSHIKAWA, Katsuhiko SATO, Tatsuhito FUJIMURA.....	32
BO15. - 17:30 – 17:45 [Thursday 10/11/2005].....	33
Evaluation and limits of Cd-phytoextraction capacities of the halophyte <i>Sesuvium portulacastrum</i> .....	33
GHNAYA Tahar <sup>1</sup> , MESSEDI Dorsaf <sup>1</sup> , SLAMA Ines <sup>1</sup> , GHORBEL Mohamed Habib <sup>2</sup> , ABDELLELY Chedly <sup>1</sup> .....	33
BO16. - 17:45 – 18:00 [Thursday 10/11/2005].....	34
One Plausible Theoretical Try to Elucidate Mechanism of Insect Resistance against Cry1Ac Toxin from <i>Bacillus thuringiensis</i> .....	34
HORI Hidetaka.....	34

<i>BO17. - 18:00 – 18:15 [Thursday 10/11/2005]</i> .....	34
Epidemiology, mating type distribution and population structure of <i>Ascochyta rabiei</i> the causal agent of <i>Ascochyta</i> blight of chickpea in tunisia .....	34
RHAIEM Azza <sup>1</sup> , CHERIF Mohamed <sup>1</sup> , PEEVER Tobin L <sup>2</sup> , DYER Paul S <sup>3</sup> , HARRABI Moncef <sup>4</sup> , STRANGE Richard <sup>5</sup> .....	34
<i>BO18. 18:15 – 18:30 [Thursday 10/11/2005]</i> .....	35
Effects of Saharan high temperatures on grapevine virus eradication .....	35
BEN SALEM-FNAYOU A. <sup>1</sup> , ZEMNI H. <sup>1</sup> , MLIKI A. <sup>1</sup> , GUGERLI P. <sup>2</sup> and GHORBEL A. <sup>1</sup> .....	35
<b>SESSION BO 4. AGRONOMY / BIOCHEMISTRY / MOLECULAR BIOLOGY .....</b>	<b>35</b>
Chairpersons: Manef ABDERRABBA and Masakazu NAGAKI.....	35
<i>BO19.- 9:00-9:15 [Friday 11/11/2005]</i> .....	35
Development and Roles of Contract Marketing of Agricultural Products for Processing – Buy-&-Sell Adjustment Process and Agreements.....	35
NAGAKI Masakazu .....	35
<i>BO20.- 9:15-9:30 [Friday 11/11/2005]</i> .....	36
Biotechnology Applications In Animal Nutrition For The Developing Countries .....	36
NAJAR T.....	36
<i>BO21. - 9:30-9:45 [Friday 11/11/2005]</i> .....	36
Phytosociological Study on Steppe Vegetation in the Western half of the Eurasian Continent .....	36
NAKAMURA Toru <sup>1</sup> and Yunxiang CHENG <sup>1</sup> .....	36
<i>BO22. - 9:45-10:00 [Friday 11/11/2005]</i> .....	37
Construction of a Multifunctional Fusion Protein for Tissue Engineering.....	37
ELLOUMI Imen, Rie KOBAYASHI, Hisakage FUNABASHI, Masayasu MIE, Eiry KOBATAKE.....	37
<i>BO23. 10:00-10:15 [Friday 11/11/2005]</i> .....	39
Reactivity of C60 with glycine methylester: theoretical data versus experimental studies .....	39
BEN MESSAOUDA M'hamed <sup>a,b</sup> , Fathi MOUSSA <sup>b</sup> and Manef ABDERRABBA <sup>a</sup> , .....	39
<i>BO24.- 10:15-10:30 [Friday 11/11/2005]</i> .....	39
Organization and management of <i>Dictyostelium</i> cDNA database and resource bank .....	39
MORIO Takahiro and the <i>Dictyostelium</i> cDNA project in Japan .....	39
<b>SESSION BO 5. MEDICAL GENETICS .....</b>	<b>40</b>
Chairpersons: Hamadi AYADI and Hitoshi MIYAZAKI.....	40
<i>BO25. - 11:00-11:15 [Friday 11/11/2005]</i> .....	40
Plants in arid land are rich sources for antioxidant substances that prevent the pathogenesis of various diseases .	40
MIYAZAKI Hitoshi, Hidehisa SHIMIZU, Makoto SAKAMOTO, Masashi KINOSHITA, Nahla ZEGHONDA .....	40
<i>BO26.- 11:15-11:30 [Friday 11/11/2005]</i> .....	40
Methods for Searching and Evaluating Effective Hair Growth Regulation Factors from Tunisian Flora .....	40
KAWANO Mitsuko <sup>1</sup> , Toru IMAMURA <sup>2</sup> , and Hiroko ISODA <sup>1</sup> .....	40
<i>BO27.- 11:30-11:45 [Friday 11/11/2005]</i> .....	44
Screening of Antiallergy Compounds from Natural Resources.....	44
Parida YAMADA and Hiroko ISODA .....	44
<i>BO28. - 11:45-12:00 [Friday 11/11/2005]</i> .....	45
Attenuation of hepatic fibrosis and Alzheimer’s disease by plant derived compounds .....	45
NAGAO Masaya.....	45
<i>BO29. - 12:00-12:15 [Friday 11/11/2005]</i> .....	46
Identification and analysis of 2 novel missense mutations of <i>TMPRSS3</i> in two consanguineous Tunisian families with non-syndromic autosomal recessive deafness. Identification of the transmembrane serine protease 3 ( <i>TMPRSS3</i> ) ligands? .....	46
MASMOUDI Saber .....	46
AYADI Hammadi.....	46
<i>BO30. - 12:15-12:30 [Friday 11/11/2005]</i> .....	47
Autosomal dominant axonal charcot-marie-tooth disease associated to periodic paralyses and pyramidal syndrom a new genetic entity.....	47
BARHOUMI Chokri <sup>1</sup> , MACHGHOUL S. <sup>2</sup> and HENTATI Fayçal <sup>3</sup> .....	47

<b>SESSION BO 6. USEFUL BIOLOGICAL COMPOUNDS.....</b>	<b>48</b>
Chairpersons: Mokhtar ZARROUK and Masaya NAGAO .....	48
<b>BO31. - 15:00 – 15:15 [Friday 11/11/2005].....</b>	<b>48</b>
Structures and Roles of Bioactive Substances Involved in Apical Dominance of Higher Plants .....	48
FUJIMORI Masahiro, Eri NAKAJIMA, Koji HASEGAWA, and Hideyuki SHIGEMORI.....	48
Akiko ITO.....	48
<b>BO32.- 15:15 – 15:30 [Friday 11/11/2005].....</b>	<b>49</b>
Virgin olive oil: composition and health benefits.....	49
ZARROUK Mokhtar , Wael TAAMALLI, Leila ABAZA, Sonia BEN TEMIME, Fouzia MAHJOUB HADDADA, Dhouha KRICHENE and Douja DAOUD .....	49
<b>BO33. - 15:30-15:45 [Friday 10/11/2005].....</b>	<b>50</b>
Some in Vitro Assays for Assessing Cytotoxicity, Differentiation and Apoptosis of HL60 Cell Line .....	50
ABAZA Leila , Hiroko ISODA, Terence P.N. TALORETE, .....	50
and Mokhtar ZARROUK,.....	50
<b>BO34. - 15:45-16:00 [Friday 11/11/2005].....</b>	<b>50</b>
Comparative study on aroma analysis of Virgin Olive Oil by hydrodistillation and Solid-phase Microextraction .....	50
BEN TEMIME S <sup>1</sup> ., BACCOURI B. <sup>1</sup> , TAAMALLI W. <sup>1</sup> , ABAZA L <sup>1</sup> ., DAOUD D <sup>1</sup> . and ZARROUK M <sup>1</sup> .....	50
<b>BO35. - 16:00-16:15 [Friday 11/11/2005].....</b>	<b>50</b>
Physicochemical and volatile characterization of some Tunisian olive cultivars .....	50
MAHJOUB HADDADA Faouzia <sup>1</sup> , Hédia MANAI <sup>1</sup> , Douja DAOUD <sup>1</sup> and Mokhtar ZARROUK <sup>1*</sup> .....	50
<b>BO36. - 16:15-16:30 [Friday 11/11/2005].....</b>	<b>51</b>
Phenotypic variability and correlation among agronomic traits in Tunisian olive germplasm.....	51
TAAMALLI Wael, DAOUD Douja and ZARROUK Mokhtar .....	51
<b>SESSION BO 7. NOVEL BIOTECHNOLOGIES .....</b>	<b>51</b>
Chairpersons: Fethi MOUSSA and Takahiro MORIO.....	51
<b>BO37.- 17:00-17:15 [Friday 11/11/2005].....</b>	<b>51</b>
Biochemical, molecular and structure-function relationship studies of some new enzymes used in the bio- processing of starch and sweeteners production.....	51
BEJAR Samir, BEN ALI Mamdouh, BORGHI Mohamed Ali, RHIMI Moez, KHEMAKHEM Bassem, CHOUYAKEH Hichem, MEZGHANI Monia and MELLOULI Lotfi .....	51
<b>BO38. - 17:15-17:30 [Friday 11/11/2005].....</b>	<b>53</b>
Secondary bioactive metabolites from streptomycetes species .....	53
MEHDI-BEN AMEUR R., SIOUD S., FOURATI BEN FGUIRA L., KARRAY-REBAI I., MELLOULI L. *, BEJAR S. ....	53
<b>BO39.- 17:30-17:45 [Friday 11/11/2005].....</b>	<b>54</b>
Effects of Tunisian medicinal plants extracts on the expression of cell defence genes in human leukemia cell line K562 using cDNA arrays. Correlation with related biological activities .....	54
BOUHLEL Ines <sup>1,2</sup> , BEN AMMAR Rebai <sup>1,2</sup> , ABDELWAHED Afef <sup>1,2</sup> , KILANI Soumaya <sup>1,2</sup> , HAYDER Nawel <sup>1,2</sup> , Kita VALENTI <sup>3</sup> , LAPORTE François <sup>3</sup> , GHEDIRA Kamel <sup>2</sup> , CHEKIR-GHEDIRA Leila <sup>1</sup> .....	54
<b>BO40. - 17:45-18:00 [Friday 11/11/2005].....</b>	<b>55</b>
Antioxidant effect of essential oils on the stability to auto-oxidation of refined oils .....	55
AGREBI Houssem , Samira SIFI, Manef ABDERRABBA .....	55
<b>BO41. - 18:00 – 18:15 [Friday 11/11/2005].....</b>	<b>55</b>
Comparison of <i>Salvia officinalis</i> essential oil from Tunisia obtained by supercritical carbon dioxide extraction and hydrodistillation methods. Kinetic of the extraction .....	55
FELLAH S. <sup>1</sup> , D. BARTH <sup>2</sup> , M. ROMDHANE <sup>3</sup> , and M.ABDERRABBA <sup>1*</sup> .....	55
<b>BO42. - 18:15 – 18:30 [Friday 11/11/2005].....</b>	<b>56</b>
Genetic relationships in wild grapes and Nopal assessed by molecular markers.....	56
ZOGLAMI N., CHRITA I., GARGOURI M., MLIKI A. and GHORBEL A.....	56
<b>SESSION BP (POSTER SESSION).....</b>	<b>56</b>
Chairpersons: Brahim MARZOUK and NAKAMURA Toru.....	56
<b>BP 1 .....</b>	<b>56</b>
Spatial distribution of <i>Cerastoderma glaucum</i> in the estran of the Bougrara lagoon (Tunisia).....	56
DERBALI Abdelkarim *, JARBOUI Othman * & SERBEJI Mohamed Moncef ** .....	56

<b>BP 2</b> .....	57
Spatial distribution of two gastropods ( <i>Cerithium vulgatum</i> and <i>Bittium reticulatum</i> ) in the estran area of the Sfax north coast (Tunisia).....	57
ELHASNI Kamel *, SERBEJI Mohamed Moncef ** & JARBOUI Othman * .....	57
<b>BP 3</b> .....	57
Effects of <i>Acacia salicina</i> extracts on the expression of cell defence genes in human lymphoblast cell line K 562 using cDNA arrays. Correlation with different biological activities. ....	57
BOUHLEL Ines <sup>1,2</sup> , VALENTI Kita <sup>4</sup> , GHEDIRA Kamel <sup>1</sup> , DIJOUX-FRANCA Marie-Geneviève <sup>3</sup> , LAPORTE François <sup>4</sup> , CHEKIR- GHEDIRA Leila <sup>2</sup> .....	57
<b>BP 4</b> .....	58
Biological activities and expression of genes in human leukemia cell line K562 using cDNA arrays of products from <i>Cyperus rotundus</i> , <i>Pistacia lentiscus</i> and <i>Myrtus communis</i> .....	58
ABDELWAHED A <sup>1,2</sup> , KILANI S <sup>1,2</sup> , BOUHLEL I <sup>1,2</sup> , SKANDRANI I <sup>1,2</sup> , HAYDER N <sup>1,2</sup> DIJOUX FRANCA M-G <sup>3</sup> , MARIOTTE A-M <sup>3</sup> , VALENTI K <sup>4</sup> , LAPORTE F <sup>4</sup> GHEDIRA K <sup>2</sup> , CHEKIR-GHEDIRA L <sup>1,2</sup> .....	58
<b>BP 5</b> .....	59
Borage ( <i>Borago officinalis</i> L.) Seeds: a new crop of gamma-linolenic acid and phytosterols .....	59
HAMROUNI Ibtissem, MARZOUK Brahim and KCHOUK Mohamed Elyes .....	59
<b>BP 6</b> .....	59
Volatile constituents of pistachio hull essential oil .....	59
CHAHED Thouraya, DHIFI Wissal, HAMROUNI Ibtissem, MASAADA Kamel, KCHOUK Mohamed Elyes and MARZOUK Brahim .....	59
<b>BP 7</b> .....	60
Chemical composition of essential oils obtained from flowers and aerial parts of <i>Rhaponticum acaule</i> growing wild in Tunisia.....	60
BOUSSAADA O. <sup>1</sup> , S. AMMAR <sup>2</sup> , I. CHRAIF <sup>2</sup> , B. BEN TIBA <sup>1</sup> , Z. MIGHRI <sup>2</sup> , A. N. HELAL <sup>3</sup> .....	60
<b>BP 8</b> .....	60
Evaluation of some tunisian citrus peels .....	60
SAIDANI Moufida, KCHOUK Mohamed Elyes and MARZOUK Brahim .....	60
<b>BP 9</b> .....	60
Aroma composition of two tunisian olive oils: Chetoui and Chemlali .....	60
DHIFI Wissal, KCHOUK Mohamed Elyes & MARZOUK Brahim.....	60
<b>BP 10</b> .....	61
Relationship aroma and pomological quality of local and introduced grapevines cultivated under drought climate in Tunisia.....	61
ZEMNI H <sup>1</sup> , SOUID I <sup>1</sup> , BEN SALEM A <sup>1</sup> , HELLALI R <sup>2</sup> . and A. GHORBEL <sup>1</sup> .....	61
<b>BP 11</b> .....	61
Date seed oil as new source of antioxidants: in vitro study .....	61
Riadh BEN MANSOUR, Amel B, Souhail B, Hammadi A et Basma HENTATI.....	61
<b>BP 13</b> .....	62
Reproductive cycle of the wide eyed flounder « <i>Bothus podas podas</i> » in Gabes gulf (Tunisia).....	62
ABID S <sup>2</sup> , OUANNES-GHORBEL A <sup>1</sup> , JARBOUI O. <sup>1</sup> REBAI R <sup>2</sup> & BOUAIN A. <sup>2</sup> .....	62
<b>BP 14</b> .....	62
Sexual cycle of <i>Sciaena umbra</i> ( <i>Teleostei, Sciaenidae</i> ) in the Gabes gulf (Tunisia).....	62
REBAI KOBBI Rayda *, GHORBEL OUANNES Amira *, JARBOUI Othmen *, ABID Souhir * & BOUAIN Abderrahmen ** .....	62
<b>BP 15</b> .....	63
Water use and primary productivity of <i>Cenchrus ciliaris</i> provenances in arid zone of Tunisia .....	63
MNIF Lobna & CHAIEB Mohamed.....	63
<b>BP 16</b> .....	63
Changes in <i>Aeluropus littoralis</i> growth phosphorus availability in medium .....	63
TALBI Ons, LABIDI Nahla & ABDELLY Chedly .....	63
<b>BP 17</b> .....	64
Physiological responses of barley to Fe-deficiency.....	64
YOUSFI Sabeh, ABDELLY Chedly and GHARSALLI Mohamed .....	64

BP 18.....	64
Effect of mannitol and peg iso-osmotic stresses on growth, proline and soluble sugars accumulation in <i>Sesuvium portulacastrum</i> .....	64
SLAMA Ines, HESSINI Kamel, GHNAYA Tahar, MESSEDI Dorsaf, ABDELLEY Chedly.....	64
BP 19.....	65
Evaluation of the antiradical and antioxidant activity in <i>Mesembryanthemum crystallinum</i> : preliminary study....	65
BOUFTIRA Ibtissem <sup>1,2</sup> , BEN HAMED Karim <sup>2</sup> , SFAR Souad <sup>1</sup> , ABDELLEY Chedly <sup>2</sup> .....	65
BP 20.....	65
Genetic transformation of Tunisian grapevines to study the functionality of the genes rd22 and dehydrin involved in the tolerance to drought.....	65
DABBABI N <sup>1</sup> , GARGOURI M <sup>1</sup> , JARDAK-JAMOUCSSI R <sup>1</sup> , HANANA M <sup>1</sup> , BOUAMAMA B <sup>1</sup> , MLIKI A <sup>1</sup> , HAMDI S <sup>2</sup> . and GHORBEL A <sup>1</sup> .....	65
BP 21.....	66
Effects of <i>Rhamnus alaternus</i> extracts on anti-genotoxic, antioxidant and expression of genes in human leukemia cell line K562 using cDNA arrays.....	66
BEN AMMAR Rebai <sup>1,2</sup> , BOUHLEL Ines <sup>1,2</sup> , VALENTI Kita <sup>3</sup> , GHEDIRA Kamel <sup>1</sup> , LAPORTE François <sup>3</sup> , CHEKIR- GHEDIRA Leila <sup>2</sup> .....	66
BP 22.....	67
Extraction de l'huile de lentisque.....	67
KHEMIRI Abdallah et SAIDI Youssef.....	67
BP 23.....	67
Exploiting the potentiality of nitrogen-fixing rhizobacteria to improve the tolerance of chickpea ( <i>Cicer arietinum</i> L.) to osmotic stress.....	67
MHADHBI Haythem , Moez JEBARA, Adel ZITOUN, Férid LIMAM, Mohamed Elarbi AOUANI.....	67
BP 24.....	68
Anti-ulcer effect of <i>zizyphus lotus</i> (L.) extracts.....	68
BORGI Wahida, CHOUCANE Nabil.....	68
BP 25.....	68
Extraction, Stability and antioxidant activity of some essential oils from local medicinal plants.....	68
MEJRI Mondher <sup>ab</sup> , MEJRI Jamel <sup>ab</sup> , BOUGHRAROU Chokri <sup>ab</sup> , AGREBI Houcem <sup>ab</sup> , ABDERRABBA Manef <sup>a</sup> .....	68
BP 26.....	68
Theoretical studies of 4,6-dinitrotetrazolo [1,5-a] pyridine compound in Diels-Alder reactions.....	68
AYADI Sameh , Khaled ESSALAH, Manef ABDERRABBA.....	68
BP 27.....	69
Carbon sequestration by the cork-oak forest and its conversion and degradation vegetal formations.....	69
ALOUY Ali.....	69
BP 28.....	69
Contribution to the survey of the eurasian otter <i>Lutra lutra Linnaeus</i> (1758) in northwestern Tunisia (region of Khroumirie-Mogods).....	69
LAHBIB S. <sup>1</sup> , EL GHEZAL A. <sup>2</sup> , ABBES C. <sup>2</sup> , HASNAOUI B. <sup>2</sup> .....	69
BP 29.....	70
[BO17] Chemical composition of virgin olive oil from a new olive cultivar (H3).....	70
BACCOURI Bechir, Sonia BEN TEMIME, Wael TAAMALLI, Douja DAOUD and Mokhtar ZARROUK <sup>*</sup> .....	70
BP 30.....	70
Date seed oil, new source of antioxidants. Tests on human skin biopsies in vitro.....	70
Ines DAMMAK., Sonia BOUDAYA., Leila KESKES., Tahia BOUDAWARA., Hammadi ATTIA., Amel EL GAIED, Basma HENTATI.....	70
BP 31.....	71
Rhizobia from chick pea in Tunisia: nodulation, diversity, taxonomy, effectiveness and competitiveness.....	71
BEN ROMDHANE Samir <sup>a</sup> , Fatma TAJINI <sup>b</sup> , Mohamed Elarbi AOUANI & Ridha MHAMDI <sup>a</sup> .....	71
<b>ENVIRONMENT – WATER RESOURCES - ENERGY-.....</b>	<b>72</b>
<b>SESSION EO 1. WATER RESOURCES.....</b>	<b>72</b>
Chairpersons: ZAYANI Khemaies and Yukuo ABE.....	72

<i>EO 1 - 11:30 – 11:45 [Thursday 10/11/2005]</i> .....	72
Reversal of the way of thinking on technological development for land rehabilitation.....	72
YUKUO ABE.....	72
<i>EO 2 - 11:45 –12:00 [Thursday 10/11/2005]</i> .....	73
Neogene deep hydrogeologic reservoirs investigation in eastern sahel coastal area (Tunisia ).....	73
BEDIR Mourad <sup>1</sup> , KHOMSI Sami <sup>1</sup> , SAIDANE Hamida <sup>1,2</sup> , AYADI Soumaya <sup>1,2</sup> , METOUI Dorsaf <sup>1,3</sup> , TANFOUS-AMRI Dorra <sup>1,4</sup> , ZENATI Badiia <sup>1</sup> , LACHAAL Fethi <sup>1</sup> , SHIMI Jamel <sup>1</sup> , CHEBBI Riadh <sup>1,2</sup> , GHARSALLI Ramzi <sup>1,2</sup> , BOUGHANMI Lamia <sup>1,2</sup> , CHAREF Abdelkarim <sup>1</sup> , ZOUARI Kamel <sup>5</sup> , MAALEL Fethi <sup>6</sup> , LTAIEF Frej <sup>7</sup> , SOUSSI Mohamed <sup>2</sup> , KHANFIR Rachid <sup>8</sup> .....	73
<i>EO 3- 12:00 – 12:15 [Thursday 10/11/2005]</i> .....	74
Integrated Water Resources Management Coupling with the Global Earth Observation System (GEOSS) .....	74
Toshio KOIKE, Kazuki TSUJINOCHI, Oliver SAAVEDRA, Souhail BOUSSETTA .....	74
<i>EO 4 - 12:15 – 12:30 [Thursday 10/11/2005]</i> .....	75
Groundwater level monitoring network analysis and optimization .....	75
JARRAYA HORRICHE F.....	75
<i>EO 5 - 12:30 – 12:45 [Thursday 10/11/2005]</i> .....	76
Integrated ground water resources study of the Sfax region, Tunisia.....	76
M. ZAIRI, R. TRABELSI, I. HENTATI, H. SMIDA, I. KARRAY and Hamed BEN DHIA .....	76
<i>EO 6 - 12:45-13:00 [Thursday 10/11/2005]</i> .....	76
Impact of the treated wastewater used for the irrigation on the geochemical quality (the heavy salinisation and metals) of water of the ground water of Zaouit Sousse (the Sahel Tunisian) .....	76
Sami KLAY and Abdelkarim CHAREF.....	76
<b>SESSION EO 2. APPLIED GEOLOGY .....</b>	<b>77</b>
Chairpersons: BEDIR Mourad and Toshio KOIKE.....	77
<i>EO 7 - 15:00-15:15 [Thursday 10/11/2005]</i> .....	77
The Sahel aquifers : The geochemical characterization and the study of Pollutants reject and marine water impacts on Ksar-Hellal and Mahdia-Ksour-Essaf resources qualities .....	77
CHAREF, L. BOUGHANMI, H. JLASSI, A. BEN ZAHRA and M. BEDIR.....	77
<i>EO 8- 15:15 – 15:30 [Thursday 10/11/2005]</i> .....	78
Groundwater flow system and hydrological cycle revealed by multi-tracers approach in an semi-arid region, eastern Mongolia.....	78
TSUJIMURA Maki , Michiaki SUGITA, Tsutomu YAMANAKA, and Tadashi TANAKA.....	78
<i>EO 9 - 15:30 – 15:45 [Thursday 10/11/2005]</i> .....	80
Geophysics and Hydro-Geothermics of Deep Mesozoic and Cenozoic Reservoirs in Eastern Tunisia.....	80
B. CHULLI <sup>1</sup> , M. BÉDIR <sup>1</sup> , Sami KHOMSI <sup>1</sup> , Hakim GABTNI <sup>2</sup> , F. MEJRI <sup>3</sup> and H. BEN DHIA <sup>4</sup> .....	80
<i>EO 10 - 15:45 – 16:00 [Thursday 10/11/2005]</i> .....	80
Chemical Equilibrium Approach to Dissolving Phosphogypsum for Agricultural Application .....	80
Tetsuji CHOHI, and Masamoto TAFU .....	80
<i>EO 11 - 16:00-16:15 [Thursday 10/11/2005]</i> .....	81
Tunisian smectitic clays in the environment protection .....	81
Emna FAKHFAKH <sup>1</sup> , Islem CHAARI <sup>1</sup> , Salima CHAKROUN <sup>1</sup> , HAJJAJI walid <sup>1</sup> , Jalel BOUZID <sup>2</sup> , Mongi FEKHI <sup>3</sup> , Antoine MONTIEL <sup>4</sup> , Fethi KOOLI <sup>5</sup> & Fakhher JAMOSSI <sup>1</sup> .....	81
<i>EO 12 - 16:15-16:30 [Thursday 10/11/2005]</i> .....	81
Ghadames basin deep structuring based on gravity and magnetic anomalies (southern Tunisia).....	81
H. GABTNI <sup>1</sup> , H. ZOUARI <sup>1</sup> , C. JALLOULI <sup>2</sup> , K. L. MICKUS <sup>3</sup> , M. M. TURKI <sup>2</sup> .....	81
<b>SESSION EO 3. APPLIED ENERGY .....</b>	<b>82</b>
Chairpersons: KERKENI Chekib and Maki TSUJIMURA .....	82
<i>EO 13 - 17:00-17:15 [Thursday 10/11/2005]</i> .....	82
A New Subsurface Geologic Conceptual Model for the Petroleum Exploration in Eastern Tunisia.....	82
Sami KHOMSI <sup>1</sup> *, Mourad BÉDIR <sup>1</sup> , Mohamed Ghazi BEN JEMIA <sup>2</sup> .....	82
<i>EO 14 - 17:15-17:30 [Thursday 10/11/2005]</i> .....	83
Solar powered air conditioning system in tunisia.....	83
BALGHOUTHY Moncef *, CHAHBANI Mohamed Hachemi and GUIZANI Amenallah .....	83

<i>EO 15 - 17:30 – 17:45 [Thursday 10/11/2005]</i> .....	83
Application of renewable energies for autonomous water desalination units.....	83
K. BOUROUNI, .....	83
M.T. CHAIBI.....	83
<i>EO 16 - 17:45 – 18:00 [Thursday 10/11/2005]</i> .....	84
Experimental and numerical study of an integrated collector/storage solar water heater manufactured at the INRST .....	84
A. TEYEB **, L. DEHMANI*, C. KERKENI*, L. KAABI** .....	84
<i>EO 17 - 18:00 – 18:15 [Thursday 10/11/2005]</i> .....	84
Opportunity and performances of solar thermal applications.....	84
Salah BEN MABROUK <sup>(1)✉</sup> and laid BEN ALI <sup>(1)(2)</sup> .....	84
<i>EO 18 - 18:15-18:30 [Thursday 10/11/2005]</i> .....	85
Seawater desalination pilot plant working with a multiple stages air heating/humidifying process.....	85
Mahmoud BEN AMARA*, Amenallah GUIZANI, Mohammed MÂALEJ .....	85
<b>SESSION EO 4. ENVIRONMENTAL ASSESSMENT .....</b>	<b>87</b>
Chairpersons: Ahmed GHRABI and Hiroko ISODA .....	87
<i>EO 19 - 9:00-9:15 [Friday 11/11/2005]</i> .....	87
High-Sensitive Detection of Environmental Pollutants by Heat Shock Protein 47 .....	87
Hiroko ISODA.....	87
<i>EO 20 - 9:15-9:30 [Friday 11/11/2005]</i> .....	89
The grape leaf: a real biological and morphological indicator of air pollution and air pollutants effects.....	89
BEN ABDALLAH F <sup>1</sup> , ELLOUMI N <sup>1</sup> , BOUKHRIS M <sup>1</sup> and GARREC J-P <sup>2</sup> .....	89
<i>EO 21 - 9:30-9:45 [Friday 11/11/2005]</i> .....	90
Sustainable Development of Wastewater Treatment for Reuse in Arid and Semi-arid Lands .....	90
Takuya SHIBATA, Masuo OZAKI, Hideko MOTOJIMA, Yukuo ABE and Hiroko ISODA .....	90
<i>EO 22 - 9:45-10:00 [Friday 11/11/2005]</i> .....	90
Electrochemical and Topological Properties of Penicillin G Adsorbed on Bare Gold Microelectrodes for Biosensor Applications .....	90
A. ABDELGHANI*, W.M. HASSEN <sup>1</sup> , L. VONNA <sup>2</sup> , M.A.MAAREF <sup>1</sup> .....	90
<i>EO 23 - 10:00-10:15 [Friday 11/11/2005]</i> .....	91
In Vitro Cytotoxicity Bioassays and Proteomics for Environmental Risk Assessment.....	91
TALORETE Terence P.N. and Hiroko ISODA .....	91
<i>EO 24 - 10:15-10:30 [Friday 11/11/2005]</i> .....	92
Biological treatment of young and old landfill leachate in Tunisia: Case study of jbel chakir landfill site.....	92
TRABELSI Ismail, DHIAFALLAL Tarek, MURANO Fumio, BOUSSELMI latifa & GHRABI Ahmed .....	92
<b>SESSION EO 5. WATER TREATMENTS (1) .....</b>	<b>92</b>
Chairpersons: CHAREF Abdelkrim and Hidetaka HORI.....	92
<i>EO 25 - 11:00 – 11:15 [Friday 11/11/2005]</i> .....	92
Ultra High Performance Composting of Food Industry Sludge - Comparative Study of Fermentation in Sawdust and Paper Mixing Methods- .....	92
Hidetaka HORI*, Mizuho MIURA, Hironori ONO, Hiroi KOHYA, Tohru HAYAKAWA, Tomoko HORIKAWA, and Masako AKUTSU .....	92
<i>EO 26 - 11:15-11:30 [Friday 11/11/2005]</i> .....	93
Removal of dye by micellar-enhanced ultrafiltration .....	93
ZAGHBANI Narjess, HAFIANE Amor and DHAHBI Mahmoud.....	93
<i>EO 27 - 11:30-11:45 [Friday 11/11/2005]</i> .....	93
Excess Sludge Treatment using Solubilization.....	93
Hideko MOTOJIMA, Masuo OZAKI, Takuya SHIBATA, Yukuo ABE and Hiroko ISODA .....	93
<i>EO 28 - 11:45 – 12:00 [Friday 11/11/2005]</i> .....	94
Integration of membrane technology in the treatment of textile effluents.....	94
FERSI Cheima, GZARA Lassaad, DHAHBI Mahmoud <sup>1</sup> .....	94
<i>EO 29 - 12:00-12:15 [Friday 11/11/2005]</i> .....	94
Novel High-Quality Treatments of Wastewater Containing Fluoride Ion.....	94
Masamoto TAFU and Tetsuji CHOJI .....	94

<i>EO 30 - 12:15-12:30 [Friday 11/11/2005]</i> .....	95
Pilot Study on hybrid system of constructed wetland for wastewater treatment .....	95
Hamadi KALLALI <sup>1</sup> , Samira ABIDI <sup>1</sup> , Naceur JEDIDI <sup>1</sup> et ABDENNACEUR Hassen <sup>1</sup> .....	95
<b>SESSION EO 6. WATER TREATMENTS (2)</b> .....	<b>95</b>
Chairpersons: DHAHBI Mahmoud and Tetsuji CHOHI .....	95
<i>EO 31 - 15:00-15:15 [Friday 11/11/2005]</i> .....	95
Desalination technology utilizing temperature difference between seawater and inland atmosphere .....	95
KENTO Inoue (1), Abe YUKUO(2), Murakami MASAHIDE(3), and Mori TADAYASU(4).....	95
<i>EO 32 - 15:15-15:30 [Friday 11/11/2005]</i> .....	98
Iron removal from brackish water by ultrafiltration pretreatment prior reverse osmosis.....	98
D. ZGOLLI <sup>1,2</sup> ; F. PERSIN <sup>2</sup> et M. BEN AMOR <sup>1</sup> .....	98
<i>EO 33 15:30-15:45 [Friday 10/11/2005]</i> .....	98
Ammonium Retention quantification in soils during Soil Aquifer Treatment: columns experiments .....	98
JELLALI Salah, BENNACEUR Sabah, KALLALI Hamadi & JEDIDI Naceur.....	98
<i>EO 34 - 15:45-16:00 [Friday 11/11/2005]</i> .....	99
Uphill transport of Cr(III) through a supported liquid membrane containing D2EHPA as carrier.....	99
ZAGHBANI Asma, TAYEB Rafik and DHAHBI Mahmoud .....	99
<i>EO 35 - 16:00-16:15 [Friday 11/11/2005]</i> .....	100
Salt effect on phenolic compounds solubility: experimental measurements and modelling.....	100
Adel NOUBIGH <sup>a</sup> , CHÉRIF Mourad <sup>a</sup> , Arbi MGAIDI <sup>c</sup> , Manef ABDERRABBA <sup>a</sup> , Elise PROVOST <sup>b</sup> et Walter FÜRST <sup>b</sup> .....	100
<i>EO 36 - 16:15-16:30 [Friday 11/11/2005]</i> .....	100
Scale Problem in Desalination Units Using Solar Energy .....	100
M. TLILI, A. KORCHEF, S. BEN AHMED & M. BEN AMOR.....	100
<b>SESSION EO 7. MATERIALS SCIENCES IN ENERGY AND ENVIRONMENT SAVING</b> .....	<b>101</b>
Chairpersons: BENNACEUR Raouf and Toshinori KOJIMA .....	101
<i>EO 37 - 17:00-17:15 [Friday 11/11/2005]</i> .....	101
Future Renewable Energies and Carbon Dioxide Reduction/Fixation Technologies .....	101
T. KOJIMA.....	101
<i>EO 38 - 17:15-17:30 [Friday 11/11/2005]</i> .....	101
Progress in silicon solar cells technology using porous silicon .....	101
BESSAÏS B., M. SAADOUN, M. BEN RABHA, M. BOUAÏCHA, M. F. BOUJMLIL, N. KHEDHER, H. EZZAOUIA, R. BENNACEUR .....	101
<i>EO 39 - 17:30-17:45 [Friday 11/11/2005]</i> .....	102
Polymer supported TiO <sub>2</sub> thin films for photo-catalysis .....	102
CHORFI H <sup>1</sup> , SAADOUN M. <sup>1</sup> , BOUSSELMIL <sup>2</sup> , BESSAÏS B. <sup>1</sup> .....	102
<i>EO 40 - 17:45-18:00 [Friday 11/11/2005]</i> .....	103
Superconductivity, Spin Density Wave and Field Induced Spin Density Wave phases versus anion gap in the (TMTSF)2ClO <sub>4</sub> salt.....	103
S. HADDED1, N. JOO1,2, S. CHARFI-KADDOUR1, M. HERITIER2 and R. BENNACEUR1 .....	103
<i>EO 41 - 18:00-18:15 [Friday 11/11/2005]</i> .....	103
Optical properties of CuInS <sub>2</sub> and CuIn <sub>1-x</sub> Al <sub>x</sub> S <sub>2</sub> films prepared by "spray"pyrolysis.....	103
N. KAMOUN, R. BENNACEUR.....	103
M.L. THEYE .....	103
<i>EO 42 - 18:15-18:30 [Friday 11/11/2005]</i> .....	104
Silicon thin films on quasi-monocrystalline silicon layers for low cost thin film solar cells.....	104
HAJJI M. <sup>1*</sup> , HASSEN M. <sup>1</sup> , BEN JABALLAH A. <sup>1</sup> , EZZAOUIA H. <sup>1</sup> , BOUCHRIHA H. <sup>2</sup> .....	104
<b>SESSION EP (POSTER SESSION)</b> .....	<b>104</b>
Chairpersons: GUIZANI Amenallah and Masuo OZAKI.....	104
<i>Energy</i> .....	104
<i>EP 1</i> .....	104
Screen-printed tin-doped indium oxide films for pollutant gas sensing .....	104
MBAREK Hédia, SAADOUN Moncef, BESSAÏS Brahim.....	104

EP 2 .....	105
Gettering impurities under infrared heating in O <sub>2</sub> ambient in crystalline silicon using porous silicon layer.....	105
KHEDHER N*, HAJJI M, BOUAICHA M., EZZAOUIA H., BESSAIS B., SELMI A **, BENNACEUR R.	
.....	105
EP 3 .....	106
Coexistence of superconductivity and magnetism in low dimensional conductors .....	106
BENALI A <sup>1</sup> , CHARFI-KADDOUR S <sup>1</sup> , HERITIER M <sup>2</sup> , BENNACEUR R. <sup>1</sup> .....	106
EP 4 .....	107
Bond graph modelling of a pilot UV water disinfection unit fed by a photovoltaic source .....	107
ZITOUNI N*, ANDOULSI R*, SELLAMI A* and HASSEN A** .....	107
EP 5 .....	107
Study of the superconducting and the normal state of bedt compounds.....	107
D. MEDDEB1, N. JOO1,2 , S. CHARFI-KADDOURI, R. BENNACEUR1 and M. HERITIER2 .....	107
EP 6 .....	107
The impacts of iterative gettering on reducing defect concentrations in Czochralski silicon as compared to	
conventional gettering process with the use of porous silicon as sacrificial layer .....	107
M. HASSEN <sup>A</sup> , A. BEN JABALLAH <sup>A*</sup> , M. HAJJI <sup>A</sup> , H. EZZAOUIA <sup>A</sup> .....	107
EP 7 .....	108
Bulk Micromachining of silicon based ammonium hexafluorosilicate nanocrystallites.....	108
A. BEN JABALLAH <sup>1*</sup> , M. HASSEN <sup>1</sup> , M. HAJJI <sup>1</sup> , H. EZZAOUIA <sup>1</sup> .....	108
EP 8 .....	109
Effect of thermal escape and retrapping on PL intensity in self-assembled In (Ga)As/GaAs quantum rings.....	109
W. OUERGHUI, A. MELLITI and M.A. MAAREF .....	109
J. MARTINEZ-PASTOR and J. GOMIS .....	109
D. GRANADOS and J. M GARCIA .....	109
EP 9 .....	109
The Licht- Kraft – Werk (LKW) and its possibilities.....	109
ZIEMBA Georg .....	109
EP9B .....	109
Structural characterisation of CdS layers deposited on porous p-type GaAs.....	109
A. Missaoui <sup>*(a)</sup> , L. Beji <sup>(a)</sup> , M. Gaidi <sup>(b)</sup> , Z. Harrabi <sup>(a)</sup> , A. Bouazizi <sup>(a)</sup> .....	109
Water / Environment.....	110
EP 10 .....	110
Study of sedimentary dynamic of Monastir-Bekalta shoreline.....	110
H. EL ATI <sup>(1,2)</sup> , A. CHAREF <sup>(1)</sup> , M. GUEDDARI <sup>(2)</sup> .....	110
EP 11 .....	111
Generation of integrated onshore-offshore DTM .....	111
KASSOUK Zeineb .....	111
EP 12 .....	111
Study of CaCO <sub>3</sub> Precipitation in Standard Sea Water at 60°C .....	111
H. KAROU <sup>1,2</sup> , A. KORCHEF <sup>1</sup> , H. MOSRATI <sup>2</sup> , M. M. TLILI <sup>1</sup> , M. BEN AMOR <sup>1</sup> , O. GIL <sup>2</sup> .....	111
EP 13 .....	112
Influence of the Ionic Composition of Synthetic Wastewater on Precipitation of Calcium Phosphate. ....	112
S. BEN MOUSSA, K. HOSNI, M. BEN AMOR* .....	112
EP 14 .....	113
Pesticide analysis in a soil.....	113
CHÉRIF S. <sup>1</sup> et WORTHAM H. <sup>2</sup> .....	113
EP 15 .....	113
Potentialities of Tunisian smectitic clay to remove Pb <sup>2+</sup> from aqueous solutions .....	113
Islem CHAARI <sup>1</sup> , Emna FAKHFAKH <sup>1</sup> , Salima CHAKROUN <sup>1</sup> , Jalel BOUZID <sup>2</sup> , Mongi FEKHI <sup>3</sup> , Antoine	
MONTIEL <sup>4</sup> , Fethi KOOLI <sup>5</sup> , Fernando ROCHA <sup>6</sup> & Fakher JAMOSSI <sup>1</sup> .....	113
EP 16 .....	114
Opposing scaling during brackish water desalination by electro dialysis.....	114
ELLEUCH Myriam <sup>1</sup> , KORCHEF Atef <sup>1</sup> , BEN AMOR Mohamed <sup>1*</sup> , SISTAT Philippe <sup>2</sup> , POURCELLY G�erald <sup>2</sup>	
.....	114

<i>EP 17</i> .....	114
Pesticidal potentialities of <i>cestrum parqui</i> saponins.....	114
CHAIEB Ikkal; BEN HALIMA-KAMEL Monia; TRABELSI Mounir; HLAWA Wassila; RAOUANI Najet, BEN AHMED Dorsaf; DAAMI Mejda; BEN HAMOUDA Mohamed Habib.....	114
<i>EP 18</i> .....	115
Contribution of seismic analysis to the structuring and distribution of deep Cretaceous water and petroleum reservoir deposits since Aptian in Central Tunisia .....	115
Taher ZOUAGHI <sup>a,b,*</sup> , Mourad BEDIR <sup>a</sup> , Mohamed Hédi INOUBLI <sup>b</sup> .....	115
<i>EP 19</i> .....	116
First-principles calculations on the electronic structure of In <sub>6</sub> S <sub>7</sub> compound .....	116
H.BEN ABDALLAH <sup>a</sup> , R.BENNACEUR <sup>a</sup> .....	116
<i>EP 20</i> .....	116
Adsorption of a textile dye: Reactive blue 2 on different kinds of photocatalysts and impact on photodegradation .....	116
Mehdi ISMAIL, Latifa BOUSSELMI, Michio KOZAI.....	116
<i>EP 21</i> .....	116
Sludge accumulation and sediment oxygen demand in wastewater stabilisation ponds in Tunisia .....	116
KEFFALA C <sup>1</sup> , GHRABI <sup>1</sup> A. and J.L. VASEL <sup>2</sup> .....	116
<i>EP 22</i> .....	117
Temperature Effect on Silicon n-doped GaAs <sub>1-x</sub> N <sub>x</sub> Layers Studied by Photoluminescence.....	117
N. BEN SEDRINE <sup>1,*</sup> , A. HAMDOUNI <sup>1</sup> , K. BEN SAAD <sup>1</sup> , S. BEN BOUZID <sup>1</sup> , F. BOUSBIH <sup>1</sup> , R. CHTOUROU <sup>1,*</sup> , J.C. HARMAND <sup>2</sup> .....	117
<i>EP 23</i> .....	118
Experimental Study of Temperature Effect on Nanofiltration Performance of Neutral Solutes with a Desal 5 DK Membrane .....	118
Nihel Ben Amar <sup>1,2</sup> , Hafedh Saidani <sup>1,2</sup> , John Palmeri <sup>2</sup> , André Deratani <sup>2</sup> .....	118
<i>EP 24</i> .....	119
<i>Phthorimaea operculella</i> granulosis virus: a biopesticide to control potato tuber moth in Tunisia.....	119
Asma Laarif <sup>1</sup> , Sami Fattouch <sup>2</sup> , & Mohamed Habib Ben Hamouda <sup>3</sup> .....	119
<b>INFORMATION TECHNOLOGY – MATHEMATICS - MANAGEMENT .....</b>	<b>121</b>
<b>SESSION IO 1.....</b>	<b>121</b>
Chairpersons: Saïd ZARRATI and Nobuaki OBATA .....	121
<i>IO 1 11:30 – 11:45 [Thursday 10/11/2005]</i> .....	121
Finding consensus patterns in unaligned DNA sequences.....	121
BOUJENFA Khaddouja <sup>1</sup> , LIMAM Mohamed and ESSOUSSI Nadia .....	121
<i>IO 2 11:45 – 12:00 [Thursday 10/11/2005]</i> .....	121
Quantum White Noise Derivatives.....	121
U. Cig IJ and Nobuaki OBATA.....	121
<i>IO 3 12:00 – 12:15 [Thursday 10/11/2005]</i> .....	121
Fuzzy Logic, decision tree and estimation of risks.....	121
FENDRI-KHARRAT Souhir.....	121
<i>IO 4 12:15 – 12:30 [Thursday 10/11/2005]</i> .....	122
E-learning in Tunisian higher education: Experiments and lessons .....	122
BRAHAM Rafik, BELCADHI Lilia, GHANNOUCHI Sonia, SOUSSI Emna, KHEMAJA Maha, CHABAANE Narjess.....	122
<i>IO 5 12:30 – 12:45 [Thursday 10/11/2005]</i> .....	122
UML and Petri Nets, a perfect match.....	122
BENZINA Adel <sup>1</sup> , PALUDETTO Mario <sup>2</sup> .....	122
<b>SESSION IO 2.....</b>	<b>122</b>
Chairperson: Othman ECHI.....	122
<i>IO 6 15:00 – 15:15 [Thursday 10/11/2005]</i> .....	122
A control volume finite element method for solving the Navier-Stokes equations using equal-order velocity- pressure interpolation & matrix resolution .....	122
HAJRI Imen.....	122

<i>IO 7 15:15 – 15:30 [Thursday 10/11/2005]</i> .....	123
Homing sequence for generalized Mealy machines .....	123
Lotfi MAJDOUB .....	123
Riadh ROBBANA .....	123
<i>IO 8 15:30 – 15:45 [Thursday 10/11/2005]</i> .....	124
Group action and equivariant cohomology.....	124
ZARATI Said.....	124
<i>IO 9 15:45 – 16:00 [Thursday 10/11/2005]</i> .....	124
Development of a neural network based algorithm for multi-scale roughness parameters and soil moisture retrieval .....	124
BENNACEUR FARAH Lilia <sup>1</sup> , BENNACEUR Raouf <sup>2</sup> , FARAH Imed Riadh <sup>3</sup> , BELHADJ Ziad <sup>4</sup> and BOUSSEMA Mohamed Rached <sup>5</sup> .....	124
<i>IO 10 16:00-16:15</i> .....	125
Modular Architecture of a Research Platform for Mobile Robotics.....	125
CHATTI A, FILALI W, BEN REJEB M.....	125
<b>SESSION IO 3</b> .....	<b>125</b>
Chairperson: Mounir BEZZARGUA .....	125
<i>IO 11 17:00 – 17:15 [Thursday 10/11/2005]</i> .....	125
Generalized q-Fock Spaces and Duality Theorems .....	125
Abdessatar BARHOUMI and Habib OUERDIANE.....	125
<i>IO 12 17:15 – 17:30 [Thursday 10/11/2005]</i> .....	125
Dynamic Tuning Impact on a Fault-Tolerant and Adaptive Routing Function for <i>k</i> -ary <i>n</i> -cubes .....	125
Tsutomu YOSHINAGA, Yasuhiko NISHIMURA .....	125
<i>IO 13 17:30 – 17:45 [Thursday 10/11/2005]</i> .....	126
TIC et nouveau rôle du contrôle de gestion: le contexte des entreprises tunisiennes .....	126
Azhaar LAJMI .....	126
<i>IO 14 17:45 – 18:00 [Thursday 10/11/2005]</i> .....	126
Calderón's Reproducing Formula Associated with Partial Differential Operators on the Half-plane.....	126
Lotfi KAMOUN and Mohamed SIFI.....	126
<i>IO 15 18:00 – 18:15 [Thursday 10/11/2005]</i> .....	126
Wi-Fi & WiMAX Signal Propagation Models.....	126
Rana Ezzine, Rafik Braham .....	126
Abdelfattah Belghith.....	126
<b>SESSION IO 4</b> .....	<b>127</b>
Chairpersons: Habib OUERDIANE and Tsutomu YOSHINAGA .....	127
<i>IO 16 9:00 – 9:15 [Friday 11/11/2005]</i> .....	127
On the Digital Line.....	127
Othman Echi .....	127
<i>IO 17 9:15 – 9:30 [Friday 11/11/2005]</i> .....	127
Formalising A Multi-Agent Model VIA Petri NETS: Application To Container Stacking problem.....	127
M. KEFI <sup>(1)</sup> , O. KORBAA <sup>(2)</sup> , K. GHEDIRA <sup>(3)</sup> , P. YIM <sup>(4)</sup> .....	127
<i>IO 18 9:30 – 9:45 [Friday 11/11/2005]</i> .....	128
Towards a computerization of the expertise in numerical pedagogy.....	128
Narjess CHEBAANE, Maha KHEMAJA, Rafik BRAHAM.....	128
<i>IO 19 9:45 – 10:00 [Friday 11/11/2005]</i> .....	128
A multi-agent system based on cellular automata for modeling and simulating land use change .....	128
K. SAHEB ETTABAA, I. R. FARAH, M. K. BERRHOUMA and M. B. AHMED.....	128
<i>IO 20 10:00 – 10:15 [Friday 11/11/2005]</i> .....	129
The Dynamic Modelisation of Biological Data.....	129
HAMDI Ines , Imed Riadh FARAH, Mohamed BEN AHMED.....	129
<b>SESSION IO 5</b> .....	<b>129</b>
Chairperson: Riadh ROBBANA .....	129

<i>IO 21 11:00 – 11:15 [Friday 11/11/2005]</i> .....	129
A Generic Multi-Agent System for Analyzing Spatial –Temporal Geographic Information .....	129
FARAH I. R. , K. SAHEB ETTABAA, I. HAMDI AND M. B. AHMED .....	129
<i>IO 22 11:15 – 11:30 [Friday 11/11/2005]</i> .....	130
On the solution of noncooperative system of elliptic equations .....	130
Mounir BEZZARGA AND Khaled KEFI .....	130
<i>IO 23 11:30 – 11:45 [Friday 11/11/2005]</i> .....	130
Generalized Strichartz Inequalities for the Wave Equation on the Laguerre Hypergroup.....	130
Miloud ASSAL.....	130
<i>IO 24 11:45 – 12:00 [Friday 11/11/2005]</i> .....	130
An Efficient Genetic Algorithm to solve the problem of the STEG' Economic Power Dispatch .....	130
BEKRI-ABBES Imene. <sup>1*</sup> , Hatem RAHMOUNI <sup>2</sup> , Nadia GHRAB-MARCOS <sup>1</sup> .....	130
<i>IO 25 12:00 – 12:15 [Friday 11/11/2005]</i> .....	131
Experimental Study of Temperature Effect on Nanofiltration Performance of Neutral Solutes with a Desal 5 DK Membrane .....	131
Nihel Ben Amar <sup>1</sup> , Hafedh Saidani <sup>1,2</sup> , John Palmeri <sup>2</sup> , André Deratani <sup>2</sup> .....	131
<b>SESSION IO 6.....</b>	<b>131</b>
Chairperson: Ahmed FITOUHI .....	131
<i>IO 26 15:00 – 15:15 [Friday 11/11/2005]</i> .....	131
Schilder's theorem for white noise distribution .....	131
CHAARI Sonia , Soumaya GHERYANI and Habib OUERDIANE .....	131
<i>IO 27 15:15 – 15:30 [Friday 11/11/2005]</i> .....	131
Wided Ayed.....	131
<i>IO 28 15:30 – 15:45 [Friday 11/11/2005]</i> .....	131
On the cohomology of the Lie algebra of vector fields and the module of differential operators. ....	131
BOUARROUDJ Sofiane .....	131
<i>IO 29 15:45 – 16:00 [Friday 11/11/2005]</i> .....	131
Scheduling transient inter-production states for many cyclic productions by multi-agent systems.....	131
Olfa BELKAHLA DRISS <sup>1</sup> , Ouajdi KORBAA <sup>2</sup> , Khaled GHEDIRA <sup>1</sup> , Pascal YIM <sup>2</sup> .....	131
<b>SESSION IO 7.....</b>	<b>132</b>
Chairperson: Adel BEN ZINA.....	132
<i>IO 30 17:00 – 17:15 [Friday 11/11/2005]</i> .....	132
Homing sequence for generalized Mealy machines .....	132
Lotfi MAJDOUB .....	132
Riadh ROBBANA .....	132
<i>IO 31 17:15 – 17:30 [Friday 11/11/2005]</i> .....	133
Regularity properties of solutions of the stochastic heat equation.....	133
Habib OUERDIANE .....	133
<i>IO 32 17:30 – 17:45 [Friday 11/11/2005]</i> .....	133
Hankel Operators on the White Noise space .....	133
Samah HORRIGUE and Habib OUERDIANE.....	133
<b>HUMANITIES – CULTURE - ART.....</b>	<b>134</b>
<b>SESSION HO 1 : LINGUISTIC (1).....</b>	<b>134</b>
Chairpersons: Salah MEJRI and Saburo AOKI .....	134
<i>HO 1 11:30 – 11:50 [Thursday 10/11/2005].....</i>	<i>134</i>
Adjective: word class or semantic category?.....	134
Rafik BEN HAMOUDA.....	134
<i>L'adjectif: classe de mots ou catégorie sémantique ?</i> .....	134
<i>HO 2 11:50 – 12:10 [Thursday 10/11/2005].....</i>	<i>134</i>
Koranic text genesis .....	134
Hédi JATLAOUI .....	134

<i>Genèse du texte coranique</i> .....	134
<i>HO 3 12:10 – 12:30 [Thursday 10/11/2005]</i> .....	135
Lexical fixation: a contrastive approach.....	135
Salah MEJRI.....	135
<i>Le figement lexical : une approche contrastive</i> .....	135
<i>HO 4 12:30 – 12:50 [Thursday 10/11/2005]</i> .....	135
Tunis Linguistic Atlas: lexical data processing .....	135
Said MOSBAH.....	135
<i>L'Atlas Linguistique de Tunisie: le traitement lexical</i> .....	135
<b>SESSION HO 2 LINGUISTIC (2)</b> .....	<b>135</b>
Chairperson: Hédi JATLAOUI.....	135
<i>HO 5 15:00 – 15:20 [Thursday 10/11/2005]</i> .....	135
Arab language processing: nominal predication.....	135
Béchrir OUERHANI.....	135
<i>Le traitement automatique de l'arabe : la prédication nominale</i> .....	136
<i>HO 6 15:30 – 15:40 [Thursday 10/11/2005] (in French)</i> .....	136
L'énonciation comme construction de la subjectivité en japonais.....	136
DHORNE France.....	136
<i>HO 7 16:00 – 16:20 [Thursday 10/11/2005]</i> .....	136
The possibility of an automatic feedback system for Japanese writing .....	136
KINUGAWA Takao and ONO Masaki.....	136
<b>SESSION HO 3 ARTS, MUSIC &amp; FOLKS</b> .....	<b>136</b>
Chairperson: Tamba Akira.....	136
<i>HO 8 17:00 – 17:15 [Thursday 10/11/2005]</i> .....	136
The social change and women's status in the Maghreb region in comparison with the case of Japan .....	136
NAKAGAWA Kei, Dr.....	136
<i>HO 9 17:15 – 17:30 [Thursday 10/11/2005] (in French)</i> .....	137
<i>Forma mentis</i> japonaise, le sujet et la philosophie dans la modernisation au Japon.....	137
TANIGAWA Takako.....	137
<i>HO 10 17:30 – 17:45 [Thursday 10/11/2005]</i> .....	137
The Teaching of the Music and the New Technologies .....	137
BELGOUTHY Gamra.....	137
<i>HO 11 17:45 – 18:00 [Thursday 10/11/2005]</i> .....	137
The music and the numerical.....	137
Mohamed Amin HAMMAMI.....	137
<i>HO 12 18:00 – 18:15 [Thursday 10/11/2005]</i> .....	138
Impact of protective work on the coastline of Sidi Abdelhamid (Southern Sousse, Tunisia).....	138
SOUAYED Mongi, BADRI Ikram and ABDELJAOUED Saadi .....	138
<i>HO 13 18:15 – 18:30 [Thursday 10/11/2005]</i> .....	138
Traditional medicine and pharmacopoeia of Western South of Kef (Tunisia) .....	138
BEN HAJ JILANI Imtinène*, GHRABI Zaineb*, ZOUAGHI Mongi* .....	138
<b>JAPANESE CULTURAL PROGRAM</b> .....	<b>140</b>
<b>WORKSHOPS ON CLASSICAL JAPANESE CULTURAL EXPRESSIONS</b> .....	<b>140</b>
NOBES Vivian .....	140
<i>HO 14</i> .....	140
Movement and Gesture in the Japanese Tea Ceremony .....	140
ISHIZUKA Osamu .....	140
<i>HO 15</i> .....	140
Gesture and Movement in Nihon Buyo Dance-theatre (Japanese Classic Dancing) .....	140
WADA Yuko and AKIBA Michiko .....	140
<i>HO 16</i> .....	140
Japanese Classic Dancing.....	140
HANAYAGI Mitsue (Ms.) .....	140

<i>HO 17</i> .....	140
NŌ Theatre Text Analysis.....	140
BOURI Mohamed.....	140
<i>HO 18</i> .....	140
Musical Structure and Expression in No and Western Arts (Japanese Classic Music).....	140
TAMBA Akira.....	140
<i>HO 19</i> .....	140
Rituals and Gestures of the Japanese Theatre.....	140
NOBES-AOKI Vivian (Ms.).....	140
<b>CULTURAL PROGRAM OF HIGHER INSTITUTE OF MUSIC OF SOUSSE .....</b>	<b>141</b>
<b>DEMONSTRATION/EXHIBITION OF JAPANESE CULTURES .....</b>	<b>141</b>
Japanese residents in Tunisia .....	141
<i>HO 20</i> .....	141
Japanese paper folding and Parchment craft .....	141
Mme. Tokuko SAKAI: ORIGAMI.....	141
<i>HO 21</i> .....	141
ORIGAMI and IKEBANA.....	141
Mme. Eriko SUZUKI.....	141
<i>HO 22</i> .....	141
ORIGAMI .....	141
Mr. Kunihiko SAKAI .....	141
<i>HO 23</i> .....	141
IKEBANA.....	141
Mme. Yoshimi SAYAMA .....	141
<i>HO 24</i> .....	141
ORIGAMI .....	141
Mr. Kiyoshi SAYAMA.....	141

# BIOTECHNOLOGY

## SESSION BO 1. STRESS RESISTANCE (1)

Chairpersons: Abdelwahed GHORBEL and  
Tatsuhito FUJIMURA

Thursday November 10<sup>th</sup> 2005  
11:00-12:30  
ROOM "B"

BO1. - 11:30 -11:45 [Thursday 10/11/2005]

### Strategies of salt resistance in halophytes

ABDELLY Chedly

Laboratoire d'Adaptation des Plantes aux Stress  
Abiotiques, INIRST, BP 95, 2050 Hammam-Lif,  
Tunisie

Halophytes are plants, which are able to complete their life cycle in a substrate rich in NaCl. The sustainable use of halophytic species is a promising approach to valorize strongly salinised zones unsuitable for conventional agriculture and mediocre waters. There already many halophytic species used for economic (human food, fodder) or ecological interests (soil desalinisation, dune fixation, CO<sub>2</sub>-sequestration). However, a precondition for a suitable utilisation of suitable halophytes is the precise knowledge about their salinity tolerance and the various mechanisms enabling a plant to grow in their natural saline biotope. This study focuses on the wide variety of adaptations which have been employed by different halophytes to overcome the problems arising from high salt concentration in the soil.

Salt-tolerant metabolic pathways were reported for some algae species but not for higher plants. Moreover, no differences were found between *in vitro* salt-sensitivity of key enzymes from halophytes and glycophytes.

Biotechnology – Session BO 1. STRESS RESISTANCE (1)

While high intracellular salt concentration (above 0.4 M) inhibit enzymes activity through a direct damage to protein structure, toxic effects on cells occur at much lower concentration (about 0.1 M). Salt-resistant plant must, therefore, either protect sensitive metabolic pathways or avoid hazardous levels of toxic ions in the cytosol. Two strategies were adopted by halophytes. The dicotyledonous species are capable to compartmentalize Na<sup>+</sup> in their vacuoles (osmotic regulation), or to export it in salt glands at their leaf surface. This inclusive strategy is efficient because it is associated with a high-growth potentialities and sequestration of inorganic ion in the vacuole. Because of toxic effects of higher salinity in the cytoplasm several organic solutes with low-molecular weight are accumulated in this compartment in order to maintain an osmotic balance between this compartment and vacuole. The second strategy (salt avoidance), is adopted by monocotyledonous halophytes. In these plants, which often display low growth potentialities, deleterious salt concentration in the cytosol can be avoided through salt buildup in cell walls, salt distribution to older organs or tissues, and through salt glands.

BO2. - 11:45-12:00 [Thursday 10/11/2005]

### The drought-tolerance tactics of pearl millet, root development vs. osmo-regulation

KUSAKA Masayuki , Tatsuhito FUJIMURA

*Institute of Life and Environmental Sciences,  
University of Tsukuba, Japan*  
Pearl millet (*Pennisetum glaucum* [L.] Leeke) is known to adapt to very dry conditions, however, the control of water loss and dehydration tolerance to drought is still not completely understood. Effects of water stress on root morphologies, osmotic relations, and stomatal conductance contributing to plant growth or turgor maintenance was investigated.

Water stress was imposed by withholding water for 3 weeks at the seedling stage in a greenhouse. Irrigated treatments and two stress treatments were conducted in a tube culture