Sharm El-Sheikh – March 17-20, 2005

Under the Auspices of H. E.

Prof. Dr. Mohamed Ibrahim Soliman
Minister of Housing & Utilities and Urban Communities

Prof. Dr. Mahmoud Abou Zeid
Minister of Water Resources and Irrigation

Eng. Ahmed Abdel-Moneim El-Leithy
Minister of Agriculture and Land Reclamation

Prof. Dr. Amr Ezzat Salama
Minister of High Education and State Minister of Scientific Research

Prof. Dr. Ahmed Gamal El-Din Moussa
Minister of Education
PROGRAM INDEX

Welcome ........................................................................................................ 5
Conference Organization ................................................................. 7
Conference Chairperson, Co-Chairperson,
Secretary General ........................................................................... 8
Conference Organizing Committee ........................................... 9
Scientific Committee ........................................................................ 11
Conference Executive Committee ............................................. 12
Program Brief .................................................................................... 13
Technical Sessions ............................................................................ 15
Workshops ............................................................................................ 35
Conference Information & Venue .............................................. 41
About Sharm El-Sheikh ................................................................. 43
Exhibitors ............................................................................................ 49
Authors Index ....................................................................................... 65
The organizing committees extend to every participant a warm welcome to the Ninth International Water Technology Conference IWTC 2005.

We hope that you will find time to follow researches and savor the ethnic, business, international and cultural aspects of our setting. We will do our best to make your stay in Sharm El-Sheikh very enjoyable.

Organizing Committees

Visit our Web Pages:
www.iwtc.tk
www.mans.edu.eg
The conference is organized by:

- Mansoura University, Egypt
- Ministry of Water Resources and Irrigation, Egypt
- Ministry of Agriculture and Land Reclamation, Egypt
- Water Technology Association (WTA), Egypt

- The Conference Organization acknowledges the support received from the UNESCO Cairo Office and FAO Cairo Office.
Conference Chairperson

Prof. Magdy Abou Rayan
President of Mansoura University

Conference Honorary Chairperson

Prof. Amin Mobarak
Chairman, Egyptian Parliamentary Committee on Energy and Industry

Conference Co-Chairperson

Prof. Ahmed Bayomi Shehab El-Din
Vice President of Mansoura University

Conference Secretary General

Prof. Hussein El-Atfy
Ministry of Water Resources and Irrigation

Prof. Samy El-Felaly
Ministry of Agriculture and Land Reclamation
<table>
<thead>
<tr>
<th>Name</th>
<th>Affiliation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmed Bayomi Shehab El-Din</td>
<td>Mansoura University, Egypt</td>
</tr>
<tr>
<td>Ashraf Abou Rayan</td>
<td>Benha Institute of Technology, Egypt</td>
</tr>
<tr>
<td>Awny Naim</td>
<td>Palestinian Water Authority.</td>
</tr>
<tr>
<td>Berge Djebedjian</td>
<td>Mansoura University, Egypt</td>
</tr>
<tr>
<td>Diaa El-Monayeri</td>
<td>Zagazig University, Egypt</td>
</tr>
<tr>
<td>Diaa El-Qousy</td>
<td>Ministry of Water Resources and Irrigation, Egypt</td>
</tr>
<tr>
<td>El-Sayed Abdel Rassoul</td>
<td>Mansoura University, Egypt</td>
</tr>
<tr>
<td>Hussein El-Atfy</td>
<td>Ministry of Water Resources and Irrigation, Egypt</td>
</tr>
<tr>
<td>Ibrahim Gar-Alm Rashed</td>
<td>Mansoura University, Egypt</td>
</tr>
<tr>
<td>Magdy El-Sharkawy</td>
<td>WTA, Egypt.</td>
</tr>
<tr>
<td>Mohsen Ezz El-Din</td>
<td>Mansoura University, Egypt</td>
</tr>
<tr>
<td>Mona Gamal El-Din</td>
<td>Alexandria University, Egypt</td>
</tr>
<tr>
<td>Mostafa Soliman</td>
<td>ASCE Egypt Section</td>
</tr>
<tr>
<td>Nageh Gad El-Hak</td>
<td>Suez Canal Authority, Egypt</td>
</tr>
<tr>
<td>Radwan Al-Weshah</td>
<td>UNESCO Cairo Office</td>
</tr>
<tr>
<td>Samy El-Felaly</td>
<td>Ministry of Agriculture and land Reclamation, Egypt</td>
</tr>
</tbody>
</table>
SCIENTIFIC COMMITTEE

- Abdel-Latif El-Sharkawy
  Ministry of Scientific Research, Egypt

- Abdel-Razek Zidan
  Mansoura University, Egypt.

- Ahmed Fadel
  Mansoura University, Egypt

- Diaa El-Monayeri
  Zagazig University, Egypt.

- Diaa El-Qousy
  Ministry of Water Resources and Irrigation, Egypt

- El-Sayed Abdel Rassoul (Chairman)
  Mansoura University, Egypt.

- Hussein El-Atfy
  Ministry of Water Resources and Irrigation, Egypt

- Ibrahim Gar-Alalam Rashed
  Mansoura University, Egypt

- Mohsen Ezz El-Din
  Mansoura University, Egypt

- Mostafa Soliman
  ASCE Egypt.

- Nabil M. Hassan
  Zagazig University, Egypt.

- Samy El-Felaly
  Ministry of Agriculture and land Reclamation, Egypt.

- Talaat Eweis
  Zagazig University, Egypt.
CONFERENCE EXECUTIVE COMMITTEE

- **Samy El-Felaly** (Chairman), Ministry of Agriculture
- **Mohsen Ezz El-Din** Mansoura University
- **Berge Djebedjian** Mansoura University
- **Magdy El-Sharkawy** Water Technology Association

Conference Administration:

- **Yasmin Abd El-Hamid**, Administration Affairs, Water Technology Association
- **Hassan Abdel Wahab**, Financial Secretary, Mansoura University
THURSDAY - MARCH 17, 2005

12:00-18:00  Registration at Pyramisa Hotel
18:00-19:00  Opening Ceremonies (Aton Hall)
19:00-19:30  Exhibition Opening
19:30-21:00  Workshop (1) (Aton Hall)
21:00-22:00  Dinner at Pyramisa Hotel

FRIDAY - MARCH 18, 2005

10:00-12:00  Technical Sessions (1), (2) & (3)
             and Workshop (2) (Aton Hall)
13:30-15:30  Technical Sessions (4), (5) & (6)
15:30-16:00  Coffee Break
16:00-18:00  Technical Sessions (7), (8) & (9)
19:00        Dinner at Pyramisa Hotel

SATURDAY – MARCH 19, 2005

10:00 – 12:00  Technical Sessions (10), (11) & (12)
12:00-14:00  Technical Sessions (13), (14) & (15)
14:00-14:30  Coffee Break
14:30-16:30  Workshop (3)
16:30-18:30  Technical Session (16), (17) & (18)
18:30-19:00  Closing Ceremonies
19:00        Dinner at Pyramisa Hotel

SUNDAY – MARCH 20, 2005

Free Day

Notes:
- Sessions will be held in Khufo, Khafrae and MENKARA Hall.
- Ceremonies will be held in Aton Hall
**Thursday (17/3/2005)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:00-18:00</td>
<td>Registration at Pyramisa Hotel</td>
</tr>
<tr>
<td>18:00-19:00</td>
<td>Opening Ceremonies (Aton Hall)</td>
</tr>
<tr>
<td>19:00-19:30</td>
<td>Exhibition Opening</td>
</tr>
<tr>
<td>19:30-21:00</td>
<td>Workshop (1) (Aton Hall)</td>
</tr>
<tr>
<td></td>
<td>Water Demand Management and Water Security</td>
</tr>
<tr>
<td>21:00-22:00</td>
<td>Dinner at Pyramisa Hotel</td>
</tr>
</tbody>
</table>

**Friday (18/3/2005)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Khufo</th>
<th>Khafrae</th>
<th>Menkara</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-12:00</td>
<td>Technical Session (1)</td>
<td>Technical Session (2)</td>
<td>Technical Session (3)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Workshop (2) (Aton Hall) (Angus) Flexible Pipelines</td>
</tr>
<tr>
<td>13:30-15:30</td>
<td>Technical Session (4)</td>
<td>Technical Session (5)</td>
<td>Technical Session (6)</td>
</tr>
<tr>
<td>15:30-16:00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:00-18:00</td>
<td>Technical Session (7)</td>
<td>Technical Session (8)</td>
<td>Technical Session (9)</td>
</tr>
<tr>
<td>19:00</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Saturday (19/3/2005)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Khufo</th>
<th>Khafrae</th>
<th>Menkara</th>
</tr>
</thead>
<tbody>
<tr>
<td>10:00-12:00</td>
<td>Technical Session (10)</td>
<td>Technical Session (11)</td>
<td>Technical Session (12)</td>
</tr>
<tr>
<td>12:00-14:00</td>
<td>Technical Session (13)</td>
<td>Technical Session (14)</td>
<td>Technical Session (15)</td>
</tr>
<tr>
<td>14:00-14:30</td>
<td></td>
<td></td>
<td>Coffee Break</td>
</tr>
<tr>
<td>14:30-16:30</td>
<td>Workshop (3) (Aton Hall) Low Cost Water Treatment Technologies</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16:30-18:30</td>
<td>Technical Session (16)</td>
<td>Technical Session (17)</td>
<td>Technical Session (18)</td>
</tr>
<tr>
<td>18:30-19:00</td>
<td></td>
<td></td>
<td>Closing Ceremonies (Aton Hall)</td>
</tr>
<tr>
<td>19:00</td>
<td></td>
<td></td>
<td>Dinner at Pyramisa Hotel</td>
</tr>
</tbody>
</table>

**Sunday (20/3/2005)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Free Day</td>
</tr>
</tbody>
</table>
Technical Sessions

No. of Sessions 18
No. of Papers 96
PLACE: KHUFO HALL
Friday 18/03/2005 10:00 AM

CHAIRPERSONS:

* Diaa El-Qousy  Ministry of Water Resources and Irrigation, Egypt
* Hussein El-Atfy  Ministry of Water Resources and Irrigation, Egypt

10h00  Harvesting of Atmospheric Water: A Promising Low-Cost Technology
Mohan Bahadur Karkee
Department of Water Supply and Sewerage  Nepal

10h20  Operational Management System for Bahr Wahba Canal
M. K. Mahmoud
Hydraulics Research Institute  Egypt

10h40  The Nile Delta in a Global Vision
Bakenaz A. Zeydan
Tanta University  Egypt

11h00  The Optimizing Model of Potential Evapotranspiration in North Syria
Abdul Naser N. Al-Darir and M. Aldoubiat
Aleppo University  Syria
Session 2

WASTEWATER TREATMENT (I)

PLACE : KHAFAREA HALL
Friday 18/03/2005 10:00 AM

CHAIRPERSONS :

* Samy Emarah Ministry of Housing and Utilities and Urban Communities, Egypt
* Ahmed Fadel Mansoura University, Egypt

10h00 Treatment of Potato-Processing Wastewater using Aerobic Side Stream Membrane Bioreactor
* Vitens Water Company The Netherlands
** Mansoura University Egypt
*** Department of Environmental Technology, Leeuwarden The Netherlands

10h20 Removal of Copper Ions from Aqueous Solutions by Dried Activated Sludge
H. Benaïssa* and M-A. Elouchdi
* University of Tlemcen Algeria

10h40 Effluent Wastewater Treatment for a Resin-Based Paints Plant (Case Study)
Mohamed Hanafy and O. A. Elbary
Cairo University Egypt

11h00 Modified Sequential Batch Reactor (MSBR) A New Process of Wastewater Treatment
Medhat M. Saleh and Usama Mahmood
El-Azhar University Egypt

11h20 Overview on Chemical Oxidation Technology in Wastewater Treatment
I. G. Rashed, M. A. Hanna, H. F. El-Gamal, A. A. Al-Sarawy
and F. K. M. Wali
Mansoura University Egypt

11h40 Utilization of By-Pass Kiln Dust for Treatment of Tanneries Effluent Wastewater
Mohamed Hassan Mostafa*, Ehab Mohamed Rashed**
and Amr Hassan Mostafa*
* Housing and Building Research Center
** Cairo University Egypt
3th Session

**DESALINATION TECHNOLOGIES (1)**

**PLACE**: MENKARA HALL  
**Friday** 18/3/2005  **10:00 AM**

**CHAIRPERSONS**:

* El-Sayed Abdel-Rassoul  
  Mansoura University, Egypt
* Hassan El-Banna Fath  
  Alexandria University, Egypt

---

**10h00**  
**RO System Design Rehabilitation Part I: Sizzling Feed Intake Management**  
Aly Karameidan  
Nuclear Research Center  
Egypt

**10h15**  
**Exergy and Thermoeconomics Evaluation of MSF Desalination Plants Using a New Visual Package**  
A. S. Nafey*, H. E. S. Fath**, A. A. Mabrouk* and M. A. El-Zeky*  
* Suez Canal University  
** Alexandria University  
Egypt

**10h30**  
**Exergy and Thermo-Economic Analysis of Modified MSF Desalination Plants Configurations**  
A. S. Nafey*, H. E. S. Fath**, A. A. Mabrouk* and M. A. El-Zeky*  
* Suez Canal University  
** Alexandria University  
Egypt

**10h45**  
**A Stand Alone Complex for the Production of Water, Food, Electricity & Salts: A Solution for the Sustainable Development of Small Communities in Remote Areas**  
Hassan E. S. Fath*, Fatma M. El-Shall, Ulrike Seibert** and Gisela Vogt**  
* Alexandria University  
** Fraunhofer Institute for Solar Energy Systems  
Germany

**11h00**  
**Evaluation of Desalination and Water Transport Costs**  
(Case Study: Abu Soma Bay, Egypt)  
Berge Djebdjian*, Mohamed Safwat Mohamed*, Salah El-Sarraf**  
and Magdy Abou Rayan*  
* Mansoura University, Egypt  
** Talkha Fertilizers Company  
Egypt

**11h15**  
**Solar Based Distillation System for Domestic Application**  
M. Umamaheswaran  
Anna University  
India

**11h30**  
**Reverse Osmosis as a Solution for Water Shortage in Iran**  
Sayed S. Madaeni*  
Razi University  
** and M. Ghanei**  
** Urban & Industrial Water Technology of Iran Co.  
Iran
Session 4

FLOW IN RIVERS AND OPEN CHANNELS (1)

PLACE : KHUFO HALL
Friday 18/3/2005 13:30 PM

CHAIRPERSONS :

* Abdel-Razik Zedan Mansoura University, Egypt
* Karima Attia Nile Research Institute, Egypt

13h30  Flow Characteristics at the New Naga Hammadi Barrages Using Waves Two-Dimensional Model
        Youssef Hafez and Zeinab El barbary
        Nile Research Institute Egypt

13h45  Sediment Deposition Mapping in Aswan High Dam Reservoir Using Geographic Information System (GIS)
        Hosam El-Sersawy
        Nile Research Institute Egypt

14h00  Effect of Vertical Curvature of Flow at Weir Crest on Discharge Coefficient
        Kassem Salah El-Alfy
        Mansoura University Egypt

14h15  Discharge Measurement in Trapezoidal Lined Canals Utilizing Horizontal and Vertical Contractions of Cross-Section
        Hassan Ibrahim Mohamed
        Assiut University Egypt

14h30  Rosetta Branch Waste Load Allocation Model
        Noha Donia
        Ain Shams University Egypt
Session 5

HYDRAULIC STRUCTURES (1)

PLACE: KHAFAER HALL
Friday 18/3/2005 13:30 PM

CHAIRPERSONS:

* Mohsen Ezz El-Din Mansoura University, Egypt
* Zeinab Elbarbary Nile Research Institute, Egypt

13h30 Historical Waterworks in Turkey
Ünal Özış, Ayşen Turkman, and Yalçın Özdemir
Dokuz Eylül University
Turkey

13h45 Scour at Dahshoor Bridge Using Numerical Modeling and Novel Pier Scour Equation
Youssef Hafez, Zeinab Elbarbary and Ahmed Fahmy
Nile Research Institute
Egypt

14h00 River Regulation Downstream New Esna Barrage Using Mathematical Model
Karima Attia and Hosam El-Sersawy
Nile Research Institute
Egypt

14h15 The Development in the Use Asphaltic Concrete in Hydraulic Structures
Mohamad M. Al-Chiblak
Damascus University
Syria

14h30 The Construction Phases of the New Naga Hammadi Barrage Cofferdams
Yasser Shawky* and Hala Badawy**
* Hydraulics Research Institute
** National Water Research Center
Egypt
### Session 6

**GROUNDWATER**

**PLACE:** MENKARA HALL  
**Friday:** 18/3/2005 13:30 PM

**CHAIRPERSONS:**

* Hussein El-Atfy  
  Ministry of Water Resources and Irrigation, Egypt.

* Diaa El-Qousy  
  Ministry of Water Resources and Irrigation, Egypt

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 13h30  | Hydrograph Estimation Using GIS Supported GIUH Model                                                                                      | Hafez Q. Shaheen and Sameer Shadeed  
  An-Najah National University  
  Palestine                     |
| 13h45  | Nutrient Dynamics Controlled by Ground Water Injections                                                                                    | K. K. Balachandran*, T. Joseph* and J. S. Paimpillil**  
  * National Institute of Oceanography  
  ** Envirosolutions, Center for Earth Resources and Environment Management  
  India                                                                                     |
| 14h00  | Groundwater Quality in Some Villages Northeast of Jeddah City, Saudi Arabia                                                               | Masoud Eid Al-ahmadi  
  King Abdulaziz University  
  Saudi Arabia                                                                   |
| 14h15  | Hydrogeology and Hydro-Geochemistry of the Quaternary Aquifer in the Middle Nile Delta Area, Egypt                                            | Mohamed Al-Kashouy* and A. El Sabbagh**  
  * Cairo University  
  ** Channel Maintenance Research Institute  
  Egypt                                                                   |
| 14h30  | Subsurface Removal of Iron and Manganese from Groundwater – Case Study                                                                   | Ashraf A. K. Karakish  
  Housing and Building Research center  
  Egypt                                                                   |
| 14h45  | Assessment of Groundwater Quality in Gaza City (South of Palestine) During the Period (1994-2004)                                            | Zeyad H. Abu Heen* and Sami H. Lubbad**  
  * Islamic University of Gaza  
  ** Ministry of Health, Gaza  
  Palestine                                                                 |
Session 7

WATER ECONOMICS

PLACE: KHUFO HALL
Friday: 18/3/2005 16:00 PM

CHAIRPERSONS:

* El-Sayed Abdel-Rassoul  Mansoura University, Egypt
* Samy El-Felaly  Ministry of Agriculture, Egypt

16h00  Socio-Economic Aspects of Irrigation Technology: Cases from Nepal and India
Bahwana Upadhyay and K. Bhattarai
International Water Management Institute  India

16h15  Impact of Value Assessment on Competition for Water
Noor ul Hassan Zardari and Ian Cordery
University of New South Wales  Australia

16h30  Exchange of Irrigation Water between Farmers in Egypt
Hala A. Badawy
National Water Research Center  Egypt

16h45  Farmer's Income at Kafr ElSheikh Governorate as Affected by Water Utilization and Use Efficiencies Case Study
M. A. M. Ibrahim, N. G. Ainer and S. N. Shalan
Soils & Water and Environment Research Institute  Egypt

17h00  An Optimum Approach for the Utilization of the Great Man-Made River Water in Libya
Abdulhamid M. Ghazali* and Mohamed A. AbuNahia**
* University of Al-Fateh
** Engineering Consulting Office for Utilities  Libya

17h15  Water Conservation at Sporting Clubs
Walid Omar Hussein
Ministry of Water resources and Irrigation  Egypt
Session 8

HYDRAULIC STRUCTURES (2)

PLACE :  KHAFA'AE HALL
Friday :  18/3/2005           16:00 PM

CHAIRPERSONS:

* Mohamed Bakry  Channel Maintenance Research Institute, Egypt
* Diaa El-Qousy  Ministry of Water Resources and Irrigation, Egypt

16h00  Determination of Compacted Clay Permeability by Artificial Neural Networks
M. H. Baziar and Ali Boroumand
Iran University of Science and Technology  Iran

16h15  Toshka Spillway Barrages Stability Analysis
Sherine Ismail and Medhat Aziz
National Water Research Center  Egypt

16h30  The Evaluation of the Change in Atikhisar Dam which Provides Water for the Urban Part of Canakkale with Landsat ETM Data and PCI Image Processing Software within 10 Years
Ilgar Rustu, H. Yildirim, M. Gure and M. Ozdemir
Canakkale 18 Mart University  Turkey

16h45  Proposed Barriers in Nile River for Controlling Water Hyacinth Reaching Cairo Governorate
Hosam Ibrahim*, Mohamed Bakry* and Sherif Saad**
* Channel Maintenance Research Institute
** Water Management Research Institute  Egypt

17h00  Detection of Water Leaks in Foum-El-Gherza Dam (Algeria)
Nadia Hocini and Adnane Souffi Moulla
Centre de Recherche Nucléaire d'Alger  Algeria
## Session 9

**NETWORKS AND PUMPS (1)**

PLACE: MENKARA HALL  
Friday: 18/03/2005  16:00 PM  

**CHAIRPERSONS:**  
* Nageh Gad El-Hak  
  Suez Canal Authority, Egypt  
* Nabil Hassan  
  Zagazig University, Egypt

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
</tr>
</thead>
</table>
| 16h00 | Application of Max-Min Ant System for Joint Layout and Size Optimization of Pipe Networks | Mohammad Hadi Afshar  
  Iran University of Science and Technology  
  Iran |  
| 16h15 | Evaluation of Hydraulic Parameters of Movable Jet Pump Equipped with Fixed Fluidizer | Alaa El-Shaikh*, Imam El-Sawaf**, Nabiel El-Menshawy**  
  and Nageh Gad El-Hak*  
  * Suez Canal Authority  
  ** Suez Canal University  
  Egypt |  
| 16h30 | Flow Behaviour of Non-Newtonian Clay Slurries                         | Kamal El-Nahhas, Nageh Gad El-Hak, Magdy Abu Rayan  
  and Imam El-Sawaf  
  * Suez Canal Authority  
  ** Mansoura University  
  *** Suez Canal University  
  Egypt |  
| 16h45 | A New Numerical Approach for the Solution of Contaminant Transport Equation | Mohamed El-Gamal  
  Mansoura University  
  Egypt |  
| 17h00 | Optimal Design of Water Distribution Networks Under a Specific Level of Optimality | Hossam A. A. Abdel Gawad  
  Mansoura University  
  Egypt |  
| 17h15 | Coil Pump Performance Under Variable Operating Conditions             | Sadek Z. Kassab, Ahmed A. Abdel Naby and El-Sayed I. Abdel- Basier  
  Alexandria University  
  Egypt |
Session 10

WATER RESOURCES AND SUPPLY MANAGEMENT (2)

PLACE : KHUFO HALL
Saturday: 19/3/2005 10:00 AM

CHAIRPERSONS :

* El-Sayed Abdel-Rassoul  Mansoura University, Egypt
* Hassan El-Banna Fath  Alexandria University, Egypt

10h00 Hydrology and Water Resources Remote Sensing in Soil and Water Resource Management
Behrooz Sari Sarraf*, S. Reza Raihany Nia** and Mohammad Rahmany**
*Ahar Azad Islamic University
**Expert of Abandishan Consulting Engineer  Iran

10h20 Optimal Control of Heterogeneous Coastal Aquifers: Optimization under Multiple Objectives
Hossam A. A. Abdel-Gawad
Mansoura University  Egypt

10h40 Trends in Seasonal Rainfall Changes in the Syrian Coast (in Arabic)
Ghatfan Ammar
Tishreen University  Syria
### Session 11

#### WATER TREATMENT

**PLACE:** KHAFRAE HALL  
**Saturday:** 19/3/2005  
**Time:** 10:00 AM

**CHAIRPERSONS:**

* **Mohamed Mahmoud**  
  Suez Canal University, Egypt

* **Nageh Gad El-Hak**  
  Suez Canal Authority, Egypt

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 10h00 | *Optimization Particle Separation for Better Water Quality in Treatment*                 | Mahmoud A. Elsheik*, Mooyoung Han**, and Dongheui Kwak**  
  *(Menofiya University)*  
  *(Seoul National University)*  
  *(Egypt)*
  *(Minia University)*  
  *(Mansoura University)*  
  *(Egypt)*
| 10h40 | Space-Time Dynamics and Parameters of Growth of Toxic Cyanobacteria in Freshwaters in Cheffia Dam (North-East of Algeria) | B. Soumati*, H. Nasri**, A. Meddour*, S. Kadri* and N. Loucif*  
  *(University of Annaba)*  
  *(University of Tarf)*  
  *(Algeria)*
| 11h00 | A Simplified Empirical Model for the One-Stage Direct Filtration                         | Moharram Fouad, Ragab Barakat and Ahmed Fadel  
  *(Mansoura University)*  
  *(Egypt)*

---

26
### Session 12

**PLACE:** MENKARA HALL  
**Saturday:** 19/3/2005  
**CHAIRPERSONS:**  
- *Samir El-Manharawy*  
  Nuclear Materials Corp, Egypt  
- *Hassan El-Banna Fath*  
  Alexandria University, Egypt

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
</table>
| 10h00 | How to Estimate Inorganic Fouling Flux on RO-Membrane by using ROIFA-4? | Samir El-Manharawy and Azza Hafez  
  * Nuclear Materials Corp.  
  ** National Research Center |
| 10h15 | Thermal Performance of Greenhouse with Built-in Solar Distillation System: Experimental Study | Abdulhaïy Radhwan* and Hassan E. S. Fath**  
  * King Abdul Aziz Universit  
  ** Alexandria University |
| 10h30 | Optimum Thermal Coupling System for Cogeneration Nuclear Desalination Plants | Mahmoud Samy Saadawy  
  Nuclear Research Center |
| 10h45 | Exergy and Thermo-Economics Investigation of Multi Effect Evaporation (MEE) and Hybrid Multi Effect Evaporation – Multi Stage Flash (MEE-MSF) Systems | A. S. Nafey*, H. E. S. Fath**, A. A. Mabrouk*, M. A. El-Zeky*  
  * Suez Canal University, ** Alexandria University |
| 11h00 | Humidification-Dehumidification System in a Greenhouse for Sustainable Crop Production | Johan S. Perret, A. M. Al. Ismaili and S. S. Sablani  
  Sultan Qaboos University |
| 11h15 | Electrochemical Studies of Pitting Corrosion of Cu- Fe Alloy in Sodium Chloride Solutions | Sohair Saad Mahmoud  
  Ain Shams University |
| 11h30 | Effect of Ferrous Ions on the Performance of Calcium Sulfate Inhibitors | Said Alforjani  
  Petroleum Research Centre |
### Session 13

**FLOW IN RIVERS AND OPEN CHANNELS (2)**

<table>
<thead>
<tr>
<th>Time</th>
<th>Title</th>
<th>Authors</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>12h00</td>
<td>A Proposed Modification to the White, Bettess and Paris Rational Regime Approach</td>
<td>Mansour A. Haidera</td>
<td>Sana'a University</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Yemen</td>
</tr>
<tr>
<td>12h20</td>
<td>Inland Waterways Design Criteria and its Applications in Egypt</td>
<td>Hossam El-Sersawy and A. F. Ahmed</td>
<td>National Water Research Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Egypt</td>
</tr>
<tr>
<td>12h40</td>
<td>Performance Assessment of Egyptian Canals</td>
<td>Tarek A. El-Samman</td>
<td>National Water Research</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Egypt</td>
</tr>
<tr>
<td>13h00</td>
<td>Solving of Ships Berthing Problem at Qena Governorate</td>
<td>Gamal A. Salam</td>
<td>Nile Research Institute</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Egypt</td>
</tr>
<tr>
<td>13h20</td>
<td>Investigation of El-Salam Canal Project in Northern Sinai, Egypt.</td>
<td>Azza Hafez</td>
<td>National Research Center</td>
</tr>
<tr>
<td></td>
<td>Phase-I: Environmental Baseline, Soil and Water Quality Studies</td>
<td></td>
<td>Egypt</td>
</tr>
</tbody>
</table>
Session 14

HYDRAULIC STRUCTURES (3)

PLACE: KHAFAFRAE HALL
Saturday: 19/3/2005 12:00 AM

CHAIRPERSONS:
* Diaa El-Monayeri  Zagazig University, Egypt
* Osman El-Gougary  Social Fund for Development, Egypt

12h00  Optimum Design and Construction of Water Wells (Case Study)
Osman Mohammed Naggar
UNESCO Chair in Water Resources  Sudan

12h15  Evaluation of Artificial Neural Networks in Optimization Models of Hydropower Reservoir Operation
Omid Bozorg Haddad* and Saeed Alimohammadi**
* Iran University of Science and Technology
** Shahid Abbaspour University  Iran

12h30  HBMO in Optimal Reservoir Operation
Omid Bozorg Haddad and Abbas Afshar
Iran University of Science and Technology  Iran

12h45  Flood Management of Lake Nasser after the New Toshka Barrages Construction
Nahla Sadek and Medhat Aziz
Nile Research Institute  Egypt

13h00  Hydrological Investigations in Semi-Arid Areas. Case Study: Railway Culvert Design in Libya
Salaheddine A. Serrag*, A. M. Ghazali** and S. N. Shmela**
University of Al-Fateh,  Libya

13h15  Effect of High Floods on Naga Hammadi Scour Hall
Sherine S. Ismail and Gomaa M. Dawod
National Water Research Center  Egypt
PLACE: MENKARA HALL
Saturday: 19/3/2005 12:00 AM

CHAIRPERSONS:
* Nageh Gad El-Hak, Suez Canal Authority, Egypt
* Nabil Hassan, Zagazig University, Egypt

12h00 HBMO in Engineering Optimization
    Omid Bozorg Haddad*, Abbas Afshar* and M. A. Marió**
    * Iran University of Science and Technology, Iran
    ** University of Calif., U.S.A.

12h20 Water Demand Management Using a Conservative-House Potable Water Distribution System
    Abdulaziz A. Alhamid
    King Saud University, Saudi Arabia

12h40 A New Adaptive Penalty Method for Constrained Genetic Algorithm and its Application to Water Distribution Systems
    Berge Djebeldjian*, Ashraf Yaseen**, and Magdy Abou Rayan*
    * Mansoura University, Egypt
    ** Damietta Drinking Water Company, Egypt

13h00 Network Optimization for Steady Flow and Water Hammer Using Genetic Algorithms
    Berge Djebeldjian*, Abdel-Gawad Mondy**, Mohamed S. Mohamed*, and Magdy Abou Rayan*
    * Mansoura University, Egypt
    ** Gulf of Suez Petroleum Company, Egypt
Session 16

GENERAL HYDRAULICS

PLACE: KHUFO HALL
Saturday: 19/3/2005 16:30 PM

CHAIRPERSONS:
* Hussein El-Atfy Ministry of Water Resources and Irrigation, Egypt.
* Mohsen Ezz El-Din Mansoura University, Egypt

16h30 Flow Behavior around Perforated Tile Drainage Pipes
Hassan I. Mohamed and Gamal A. A. Abouzeid
Assiut University

16h50 Computed Transient Supercavitating Flow Over a Projectile
Nabil H. Mostafa
Zagazig University

17h10 Application of New Technologies in Aquatic Weeds Management in
Khors El-Alaky and Toshka, Nasser Lake, Egypt
Magdy Hosny
Channel Maintenance Research Institute
PLACE: KHAFAE HALL
Saturday: 19/3/2005 16:30 PM

CHAIRPERSONS:

* Ibrahim G. Rashed  Mansoura University, Egypt
* Diaa El-Monayeri  Zagazig University, Egypt

16h30  Zinc Ion Removal from Wastewater by Electrodialysis
Toraj Mohammadi*, Ahmad Moheb**, Mohtada Sadrzadeh**
and Amir Razmi*
* Iran University of Science and Technology
** Isfahan University of Technology  Iran

16h45  Using of Natural Zeolites as a Heavy Metals Absorber for Wastewater
        Reuse in Irrigation
Sayyed Hassan Tabatabaei* and Abdolmajid Liaghat**
* Shahrekord University
** Tehran University  Iran

17h00  Removal of Acid Dyes from Aqueous Solutions Using Orange Peel
        as a Sorbent Material
Houcine Benaïssa
University of Tlemcen  Algeria

17h15  Periodic and Chaotic Solutions for a Model of a Bioreactor
        with Cell Recycle
S. Zaki, Osama Noman Saleh and G. Ibrahim
Mounofia University  Egypt

17h30  Effect of Temperature on Flow Properties of Digested Waste Water
        Sludge
Maha M. El Shafei*, M. S. Ibrahim** and M. F. Abadir**
* Housing and Building Research Center
** Cairo University  Egypt

17h45  Application of the UASB Inoculated with Flocculent and Granular
        Sludge in Treating Sewage at Different Hydraulic Shock Loads
Tarek Sabry
Ain Shams University  Egypt
Session 18

WATER QUALITY

PLACE: MENKARA HALL
Saturday: 19/3/2005 16:30 PM

CHAIRPERSONS:
* Nageh Gad El-Hak  Suez Canal Authority, Egypt
* Mohamed Mahmoud  Suez Canal University, Egypt

16h30 Evaluation of the Potential of Using an Omani Attapulgite as a Sorbent in Treatment of Contaminated Water
Ahmed Al-Futaisi and Ahmed Al-Jamrah
Sultan Qaboos University  Oman

16h45 Water Quality Appraisal for Soil-Water Behavior in Irrigated Clay Soil, Egypt
Aly S.A. Abdel-Mawgoud
Al-Azhar University  Egypt

17h00 Mathematical Salinity Dispersion Model along Bosphorus
S. Ipek Karaaslan* and A. Beril Tugrul**
* Yeditepe University
** Istanbul Technical University  Turkey

17h15 Environmental Study on Water Quality Assessment and Prediction in Lake Nasser by using Monitoring Networks
Walid Omer Hussein* and Ezzat Abd El Shafi**
* Nile Water Sector - Ministry of Water Resources and Irrigation
** Cairo University  Egypt

17h30 Analysis of Load versus Concentration as Water Quality Measures
Alaa El-Sadek, Mona Radwan and Shaden Abdel-Gawad
National Water Research Center, Egypt

17h45 Evaluation of Different Water Quality Parameters for the Nile River and the Different Drains
Mona Radwan
Nile Research Institute  Egypt

18h00 Water Strategies and Environmental Impacts of the River Nile in Egypt
Aziz Said
Ain Shams University  Egypt

33
Workshops

No. of Workshops 3
Place: ATON HALL

Time: 19:30 - 21:00 PM

Workshop is conducted in Arabic Language.

Chairperson:

Prof. Dr. Magdy Abou Rayan  Mansoura University, Egypt

Moderators:

Prof. Dr. Samy El-Felaly  Ministry of Agriculture, Egypt
Objectives:

The workshop is organized within the main frame of the International Water Technology Conference. The objective of the workshop is to explore the water demand management policies in the region and recommend the necessary steps to be undertaken in order to assure an effective and viable water demand management strategy for the region. The water security problem will be discussed. The level of water supply is threatening. All countries in the region are using more than 100% of their available renewable water resources. The workshop is addressed mainly to decision-makers.

Speakers:

1- Prof. Dr. Dia El-Qousy
   Ministry of Water Resources and Irrigation, Egypt
2- Dr. Radwan Al-Weshah
   UNESCO Cairo Office
3- Dr. Osman Naggar
   UNESCO Chair in Water Resource, Sudan
4- Dr. Khalid Abou Zeid
   Egyptian Water Partnership
5- Prof. Hussein El-Atfy
   Ministry of Water Resources and Irrigation
Sharm El-Sheikh, 18 March 2005

Place: ATON HALL
Time: 10:00 – 12:00 AM
Workshop is conducted in Arabic Language.

Chairperson:

Prof. Dr. Magdy Abou Rayan  Mansoura University, Egypt

Moderator:

Eng. Samy Emarah  Ministry of Housing and Utilities and Urban Communities, Egypt

<table>
<thead>
<tr>
<th>Gust Speaker</th>
<th>Subject</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Eng. Mahmoud Shaaban</td>
<td>Introduction by Angus – Egypt</td>
<td>10:00 am</td>
</tr>
<tr>
<td>Prof. Essam E. Khalil</td>
<td>Water Technology in Egypt</td>
<td>10:20 am</td>
</tr>
<tr>
<td>Eng. Adrian Semmence</td>
<td>Wellmaster Technology</td>
<td>10:40 am</td>
</tr>
<tr>
<td>Eng. Ahmed Fathalla</td>
<td>Case Study - South Sinai Water Company</td>
<td>11:10 am</td>
</tr>
<tr>
<td>Eng. Adrian Semmence</td>
<td>Super Aquaduct</td>
<td>11:40 am</td>
</tr>
<tr>
<td>Eng. Adrian Semmence</td>
<td>Agriculture Hose</td>
<td>12:00 am</td>
</tr>
<tr>
<td></td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>Prof. Dr. Magdy Abou Rayan</td>
<td>Open Discussion</td>
<td>12:30 pm</td>
</tr>
<tr>
<td></td>
<td>Lunch Break</td>
<td></td>
</tr>
</tbody>
</table>
Low Cost Water Treatment Technologies
Sharm El-Sheikh, 19 March 2005

Place: ATON HALL
Time: 14:30 – 16:30 PM
Workshop is conducted in Arabic Language.

Chairpersons:

Eng. Samy Emarah
Ministry of Housing and Utilities and Urban Communities, Egypt

Prof. Dr. El-Sayed Abdel-Rassoul
Mansoura University, Egypt

Moderator:

Prof. Dr. Ahmed Fadel
Mansoura University, Egypt
Objectives:

The development of rural areas has resulted in increasing need to sanitation. In the case of Egypt, the required investment in order to provide appropriate sanitation services is high; the local economy can not support such investment. The search of low cost technologies is a must. This is the only way to respond to sanitation problems in Egypt's rural areas.

The objective of this workshop is to discuss the available low cost technologies and its feasibility for rural areas.

Speakers:

1- Prof. Dr. Ahmed Fadel  
Mansoura University, Egypt

2- Prof. Dr. Ibrahim G. Rashed  
Mansoura University, Egypt.

3- Prof. Dr. Diaa El-Monayeri  
Zagazig University, Egypt
Registration, Opening, Ceremonies and Technical Sessions will all be held at:

**PYRAMISA HOTEL**

*Sharm El-Sheikh*

- Opening Ceremonies will be held in the ATON HALL.
- Technical Sessions and Workshops will be held in the KHUFO, KHAFRAE, MENKARA HALLS.
- Exhibition will be held in the Hatshepsut and Aton Halls.

**REGISTRATION AT THE CONFERENCE DESK**

All participants must register upon their arrival at the registration desk located at Pyramisa Hotel. The registration desk will be open from Thursday 17, at 12 AM until Saturday 20, at 10 AM. Every registered participant will receive the necessary documents: name tags and tickets for both meals and banquet.

**PRESENTATION, COMMUNICATIONS AND DISCUSSION**

There will be two parallel sessions, according to this program. Every session room is equipped with an overhead projector and LCD projector. If you require any specific audio-visual equipment, please contact your session chairman prior to the presentation.

The time allocated for each presentation is 15 minutes. All conducted in English Language.
AUTHOR’S BRIEFING/AUDIO VISUAL PRACTICE

A single orientation meeting will be held in each session meeting room at 8:00 AM on each day for all technical sessions scheduled during the day.

Authors may practice with and review overhead transparencies in their session rooms at anytime when the rooms are not in use for sessions or briefings.

MESSAGE CENTER

A bulletin board will be used to post messages received by the conference management staff on behalf of attendees and participants. The bulletin board will be located in the registration area.

Conference Registration Form

Please Check:

Author and Session Chairman  US $ 500
Non-Author  US $ 500

Complete Set of Proceedings  Non-Author  Author
US $ 30  US $ 20

Every author will receive one proceeding volume free of charge. The registration covers participation in technical program, lunches, coffee breaks and banquet ticket. Additional banquet tickets may be ordered in advance at the registration desk for US $ 10. Additional lunch tickets at US $ 10.
Sharm El-Sheikh has become one of Egypt’s best known and most visited beach resorts. In fact, in recent years, the Egyptian government has worked hard to spread around the Beach vacationers by developing or encouraging the development of many other beach resorts, but Sharm remains the leading tourist spot in the Sinai and there are a number of reasons for this.

First of all, it is a year round resort, hot in the summer, but pleasant and warm in the winter, and it has an international airport that attracts both private and many international charter flights.

Next, the area between Tiran Island and Ras Mohammed National Park on the tip of the Southern Sinai features some of the world's most amazing underwater scenery. Here, one finds crystal clear water, rare and beautiful reefs, and an incredible variety of exotic fish amongst the colorful coral. Much of this can be seen simply by snorkeling off the coast, but of course it is well known world-wide for scuba diving, with easy access to some of the Red Sea's most prominent and interesting dive sites. Just to the south of Sharm, on the very tip of the Sinai, is also one of Egypt's oldest and most beautiful, mostly underwater protectorates, Ras Mohamed.

To accommodate divers, Sharm has ever possible amenity, including first rate dive shops, centers and boats. Many of these are operated by Europeans, and they also provide excellent diving training. A few of the oldest
include the Camel Dive Center and South Sinai Divers prominent and interesting dive sites. Just to the south of Sharm, on the very tip of the Sinai, is also one of Egypt's oldest and most beautiful, mostly underwater protectorates, Ras Mohamed.

To accommodate divers, Sharm has ever possible amenity, including first rate dive shops, centers and boats. Many of these are operated by Europeans, and they also provide excellent diving training. A few of the oldest include the Camel Dive Center and South Sinai Divers.

However, Sharm el-Sheikh also offers the beauty of the Sinai, with its majestic mountains and valleys, a number of national parks, as well as some well known nearby tourist attractions such as St. Catherine's Monastery.

There is more to Sharm, however, than the beaches, sea and landscape. It is a well developed area that almost seems more like a European resort than Egyptian, with refined facilities and amenities, including these days, some more budget oriented accommodations as well as five star hotels equal to most any in the world. And, while one is capable of spending most any budget at their disposal here, for most Europeans, it remains a relatively inexpensive alternative to more costly beach resort alternatives elsewhere.

Add to this the fact that, because of the number of tourists who continually pour into Sharm, there is just about every activity a vacationer could hope to find, and it is no wonder that the resort area is so popular. Name a water sport and it can almost certainly be found here, but there is also every other activity from four wheeling to go cart tracts, from horse riding to championship golf. One may bowl, bungee jump or, believe it or not, even ice skate.
Furthermore, there are many numbers of activities for children, as well as adults, because Sharm is very much family oriented. Then in the evening, Sharm takes on almost a Las Vegas flavor with, all along the boardwalk between the hotels and the sea, various types and styles of floorshows (animations), bands, both Arabic and Western, and other entertainment. It’s a circus, but it is a charming circus as one walks along the boardwalk, hearing a dozen or more languages from every part of the world.

True, **Sharm el-Sheikh** is often called the "City of Peace", because of the various peace conferences held in the city and attended by world leaders, but it is also a "world resort", popular among and visited by people from all over Europe, because of its affordability, but also by those from much more distant lands, because it is fun.

The **Sharm el-Sheikh** area consists of three main areas, consisting of the old town Sharm el Maya (Moya) and its bay, a number of other bays, where most of the tourist facilities are located, though in fact some very fine resorts are located elsewhere, and El Hadaba, where there are vacations villas, apartments, condominiums and a few hotels. very fine resorts are located elsewhere, and El Hadaba, where there are vacations villas, apartments, condominiums and a few hotels.
In the greater resort area of Sharm el-Sheikh, the bays include, from south to north, Sharm el Maya, Na'ama Bay, Garden Bay, Tiger Bay, Sharks Bay, and Nabq Bay. There are all sorts of hotels and resorts along this strip of coastline. Some are resort compounds, similar to those more frequently seen on the Red Sea coast, which attempt to provide every option to vacations in one spot. Others are more open, particularly along Na'ama bay, where the board walk provides access to various hotel facilities making them available to everyone.

Of the bays, probably Na'ama Bay, which means "pleasant" in Hebrew, is best known, and this is also where the most hotels are located. These include some of, but by no means all of the finer hotels, including several Hiltons, several Sonesta hotels, a Marriott, the Movenpick, and the less expensive Ghazala, run by the always hospitable people of South Sinai Travel. Up the
coast just a bit, near the airport one finds actually some of the newer, very exclusive hotels, including the Four Seasons, the Hyatt, the Intercontinental, another Hilton, the Sheraton, the Movenpick Golf Hotel, which was host to Egypt's first professional golf tournament, and others such as the Holiday inn. A number of other hotels are scattered about, including the Ritz Carlton and the Hilton Waterfalls to the south of Na'ama Bay nearer to downtown. There are a number of other very fine hotels that are not part of major chains, as well as more affordable hotels, some private and some chain, such as the Days Inn.

The downtown area of Sharm, or at least the old town, around Sharm el Maya (Moya) is not large, but there are any number of restaurants and nightspots, such as the Hard Rock Cafe, and various well known fast food chains. Here, one finds the local bazaar (suq). This is also where the main port and marina at Sharm are located, though there are several other marinas up the cost from here at Na'ama Bay and Sharks Bay. Here, one finds the fishing and diving boat jetty. There are banks, and other facilities, as well as one of the three hospitals located in the area.

Sharm el-Sheikh is really, in the end, an extravaganza of entertainment in a beach setting backed by the natural wonders and historic enclaves of the Sinai. I suppose that Sharm is not for everyone, though this author has always enjoyed his visits to this part of the Sinai. What it is not, for the most part, is a laid back experience. For that, one would need to head a little further north to somewhere like Dahab or Nuweiba. Let there be no doubt Sharm is a tourist town with little other purpose, but the community has taken pride in making it more than a vacation destination. It is a one of those places where memories are made, that remain pleasant and fondly cherished dreams.
EXHIBITORS

IWTC - 2005
شركة سامورال

إسم الشركة: شركة سامورال / الشركة المصرية لمعالجة المياه
العنوان: الإسكندرية
التليفون: 043 848780 / 3
الفاكس: 043 848780 / 3
رئيس مجلس الإدارة: خالد مرسى
المشرف: علاء صفو
المساحة المRARAD حجزها:
نشاط الشركة:

نبذة مختصرة عن الشركة

تقدم شركة سامورال بالتعاون مع الشركة المصرية لمعالجة المياه بتقديم خدمات معالجة المياه من منتظمات شركة سيبا العالمية في مجال معالجة الفضلات.

وتقوم الشركة المصرية لمعالجة المياه كـذلك بمعالجة مياه الشرب والصرف وحمامات السباحة وتوريد وتركيب محطات معالجة المياه.

وتقدم الشركات كـذلك المنظمات الخاصة بأقسام الفندق المختلفة من المغاسل والمطابخ وخدمة الغرف وكذلك أقسام الصيانة.
We would like to introduce Hanna Instruments to you as a world leading manufacturer of electro-analytical instrumentation, established since 1978.

Our range of products includes:

- pH meters
- Thermometers
- ORP Meters
- Photometers
- Dissolved oxygen meters
- Chemical test kits
- Turbidity Meters
- Process Instrumentation
- Conductivity meters
- Hygrometers
- TDS Meters
- Calibration and maintenance solutions
- Magnetic Stirrers
- Dosing pumps
- Chlorine analyzer
- COD Meters

Most of our products are available in the pocket, portable and bench size, as well as controllers for process applications. A complete description of our company and products is also available by visiting our web site at www.hannainst.com.

In these years, our company has grown to be a world-wide organization with five Production centers and over 41 sales & service centers world wide in the five continents (Australia, France, Germany, Japan, Italy, Singapore, South Africa, United Kingdom, USA...etc and now our branch HANNA Egypt).

Our main fields of application include water and wastewater treatment, swimming pools, laboratory and industrial supplies, agriculture (hydroponics, greenhouses) and much more.

I am confident you will find our range of products interesting.
Wellmaster
THE PREMIER FLEXIBLE RISING MAIN SYSTEM

A flexible layflat riser for use in groundwater abstraction. Offers major cost savings and performance advantages over conventional rigid pipe systems.

- **Fast Installation and Retrieval**
  Long continuous lengths are 75% lighter and easier to handle than rigid pipe for same day installation. No sectional flanges or joints to dismantle for fast retrieval.

- **Reduced Set-Up Costs**
  Lightweight and compact for reduced transport and storage costs. Low manpower levels for installation cost savings.

- **Reduced Operational Costs**
  Superior hydraulic performance with low friction loss for efficient pumping and reduced operating costs.

- **Long Service Life**
  Designed for long service life with minimal maintenance. Tough and durable with exceptional resistance to corrosion, scaling and microbiological attack. Superior hydraulic performance is maintained resulting in major energy savings over its operational lifetime.

- **Superior Performance**
  Swells up to 15% above uncharged diameter under operational conditions to give higher flow rates over rigid pipes. Outstanding flexibility eliminates noise, dampens surges, and minimises damage by vibration.

- **Technical Support**
  Comprehensive technical support from initial feasibility study, through hydraulic analysis, to installation and commissioning.
Wellmaster
Nominal Technical Specification

<table>
<thead>
<tr>
<th>Diameter (mm)</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Colour</td>
<td>Blue</td>
<td>Blue</td>
<td>Blue</td>
<td>Blue</td>
<td>Blue</td>
<td>Blue</td>
</tr>
<tr>
<td>Minimum Short Length Burst Pressure (bar)</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>57</td>
<td>35</td>
</tr>
<tr>
<td>Actual Tensile Strength (tonne)</td>
<td>4</td>
<td>7</td>
<td>12</td>
<td>15</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Nominal Riser Weights (kg/m)</td>
<td>0.57</td>
<td>0.98</td>
<td>1.40</td>
<td>2.00</td>
<td>2.61</td>
<td>3.4</td>
</tr>
<tr>
<td>Maximum Diameter Swell Under Operating Conditions (%)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>Maximum Extension Under Operating Conditions (%)</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Maximum Recommended Continuous Working Head (m)</td>
<td>258</td>
<td>258</td>
<td>258</td>
<td>258</td>
<td>258</td>
<td>150</td>
</tr>
<tr>
<td>Maximum Recommended Loading* (tonne)</td>
<td>1.6</td>
<td>2.8</td>
<td>4.8</td>
<td>6.0</td>
<td>8.0</td>
<td>8.0</td>
</tr>
<tr>
<td>Nominal Coupling Weight (kg)</td>
<td>1.3</td>
<td>3.3</td>
<td>5.4</td>
<td>10.3</td>
<td>13.5</td>
<td>29.5**</td>
</tr>
<tr>
<td>Operational Temperature Range (°C)</td>
<td>-40 to 50</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water Quality (pH)</td>
<td>Below 30°C</td>
<td>4 to 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30°C to 50°C</td>
<td>5 to 9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Including weight of water, pump, power cable, coupling, attachments and surface head.
** Including flange.

Features unique "through-the-weave" one piece construction comprising a circular woven high tenacity polyester reinforcement totally encapsulated in a tough elastomeric polyurethane cover and lining.

Manufactured in compliance with BS EN ISO 9001:2000 quality management systems. Raw materials, components, and finished products are rigorously tested and inspected to ensure excellent product reliability.

Approved for use with potable water by Water Regulations Advisory Scheme (WRAS) in the UK, NSF International in the USA, BDA and DVGW in Germany, AFNOR in France and AS 4020 in Australia.

Available with a range of reusable field-fittable high security aluminium bronze or 316 stainless steel couplings and a full range of other accessories.

Typical Applications
Proven performance in over twenty years in over 40,000 installations.
- Potable and mineral groundwater extraction
- Water supply wells for desalination plants
- Leachate extraction on landfill sites
- Mine and quarry de-watering
- Drains, caisson duty, offshore rigs and platforms
- Prevention of saline intrusion
- Groundwater stabilisation on building sites
- Offshore fire protection pumping
- Scavenger pumping
- Groundwater pressure reduction in tunnelling

"STEEL ON A REEL"

Angus Flexible Pipelines operates a continuous programme of product development. The right is therefore reserved to modify any specifications without prior notice and Angus should be contacted to ensure that the current issues of all technical data sheets are used.

REF: 01835 © Angus Flexible Pipelines - 12.55 Printed in England

THAME PARK ROAD, THAME, OXFORDSHIRE, OX9 3RT, ENGLAND
Tel: +44 (0)1844 265000 Fax: +44 (0)1844 265156
e-mail: general.enquiries@kiddesuk.co.uk Web site: http://www.flexiblepipelines.co.uk

54
GREEN

GREEN is a professional partnership providing diversified and specialised consulting and management services in environment and sustainable development. Its clientele include governments, local and regional authorities, donor agencies, civil and non-governmental bodies, and the business and private sector community.

GREEN brings together a team of experts that have been working together throughout the world for over twenty years with in-depth expertise in all aspects related to environment and sustainable development. GREEN's full-time staff and associated experts and consultants number more than 300 people, utilizing state-of-the-art methodologies, technologies and equipment and adapting them to local conditions and resources wherever they work. The diversity and experience of GREEN has enabled it to act as a channel of technology and expertise between various countries and cultures, allowing it to positively contribute to development.

RESAT EGYPT is a market leader in water treatment solutions and technologies. It provides state-of-the-art technologies and equipment coupled with in-depth, diversified expertise in all aspects related to water treatment, including domestic water supply, industrial water requirements, groundwater treatment, effluent treatment, monitoring, analysis, anti-corrosion and anti-deposit solutions, water cooling system solutions, wastewater treatment plant design and comissioning.

RESAT EGYPT's staff work closely with their clients to identify their needs and provide them with the most suitable and optimum solutions. Their experience extends to all industrial and economic sectors, including chemical and food industries, energy, textiles, heavy industries, tourism, municipal infrastructure, and construction.

Together, GREEN and RESAT EGYPT cooperate closely as a team to provide their clients with the optimum solutions based on their needs. Their services include unparalleled on-site support such as mobile monitoring and analysis facilities as well as mobile water treatment services; in addition to 24-hour high-level expertise.

GREEN

Address: 3 Ibrahim Osman Street
off Shehab Street – Mohandseen,
Giza, Egypt
Tel.: (+202) 30 32 359 – 33 66 99 6/7
Mobile tel.: (+2012) 310 1468 – 10 20 792
Fax: (+202) 7618483 – 3445216
E-mail: green@green-group.info
gheiba@yahoo.com
Website: www.green-group.info
Contact: Dr. Tarek M. Abdel-Hamid
Managing Director, Environment

RESAT EGYPT

Address: 3 Al-Khaleej Buildings
bet. Al-Haram & Faysal Streets
Giza, Egypt
Tel.: (+202) 744 71 64
(+2010) 14 80 286
(+202) 744 71 64
info@resategypt.com
resategypt@yahoo.com
www.resategypt.com
Contact: Chem. Ayman Awny
General Manager
EL-FATH PIPE TECHNOLOGY
AND MODERN IRRIGATION

Office Address: Cairo: 35 El-Obour Building, Alexandria: Agami Betash - Matrouh Road
President: Eng. Samir Abd El Mohsen
Telephone: (202) 2630263, (203) 34361881
Fax: (202) 2630263, (203) 34377709
Mobile: 012 2124914, 010 1092031
Website: www.elfath-eg.com
E-Mail: samir@elfath-eg.com

ACTIVITY:

The company started business in using modern piping systems since 20 years ago. We are:

Agents of GEORGE FISCHER + GF + pipe jointing technology (Germany)

Supplying the following machines:
- Butt & Socket fusion machines (Hydraulic & CNC) for HDPE, PP, PVDF
- Workshop butt fusion machine for prefabrication of fitting (Bend & Y & T fitting)
- Cutting & Bevelling machines for steel pipe
- Pipe bending machines
- Plastic pipe cutters
- Stainless steel pipe cutters

Agent of GEORGE FISCHER +GF + for piping systems (Switzerland)

Using all rids of plastic pipes, fitting valves and actuated valves PVC–U, PVC–C, HDPE, PPH, PVDF, ABS, Metal butter fly valve manual, electric and pneumatic actuator, which is covering wide scope of applications:
- Food industry
- Paper & textile industry
- Biotechnology
- Semi conductor
- Medical technology
- Pharmaceutical industry
- Sea water desalination
- Petrochemical
- Water supplies system
- Drainage system
- Cold and hot potable water
- Cooling system (A.C.)
There are many +GF+ signet products (Measurement and control: flow, pressure, temperature, pH, sensors, transmitters, Analog, digital monitors, conductivity sensors and transmitters.

- We are distributor for plastic pipe product company (P.P.P.) for PVC–U & HDPE pipe.
- Now the latest application for our piping system for marine and ship building.
- Also we have well-trained team for HDPE, PP, PVDF butt & socket fusion.
الهيئة العربية للتصنيع

العنوان: ميدان العباسيه
الإتصال: 059237944

فسان: 01/04/2001

رئيس مجلس الإدارة: الفريق / مجي هناتة
المستند: المهندس / محمود الرفاعي رئيس قطاع العمليات والتسويق

عام:

أنشئت الهيئة العربية للتصنيع عام 1975 بهدف بناء وتطوير قاعدة صناعية تكنولوجية مقدمة.

تمتلك الهيئة العربية للتصنيع نشاط مصنعي متكامل وهمي مصانع صقر / قادر / الطائرات / المحركات / الإلكترونية / حلول / العربية البريطانية للصناعات البينانية / شركة العربية للتصنيع الأبلواء وشارك في النصيب الأكبر في شركتين مشتركتين وهم شركة إيكو مع رولزرويس والشركة العربية الأمريكية للسيارات مع شركة ديمبل كريزر.

المجال العمل:

تعمل الهيئة العربية للتصنيع في مجالين عسكري لإعداد القوات المسلحة لمصر والدول العربية والصينية وفي المجال المدني لإعداد تنمية المجتمع مع التركيز على مشروعات البنية الأساسية ومشروعات الحفاظ على البيئة.

الإمكانات المتاحة لدى الهيئة العربية للتصنيع:

- أحدث تكنولوجيات التصنيع والإمكانيات الانتاجية المتقدمة.
- 1000 من العاملين على مستوى عالي من التدريب بمراكز تدريب الهيئة والمراكز المختصة.
- معمل ميكانيكي وكيميائي وميكانيكي وبقائمة مغامرة ومغامرة.

الجودة:

تقوم الهيئة العربية للتصنيع بتقييم احتمال إعداد نظام لإقامة على الجودة على كافة خطوط الإنتاج والمنتجات وجميع وحدات الهيئة العربية للتصنيع حاصلة على شهادات الآيزو 2001 و 14001.

العلاقات الدولية:

- إستئنف الهيئة العربية للتصنيع علاقات قوية مع العديد من الشركات العالمية مثل:
  - فرنسية (داسو - سنقرا / إيربيسيبال / طكسون / ماتر / ..)
  - كندية (دي هافيلاند / برات جودنتي)
  - أمريكية (جنرال إلكتريك / جنرال دينامكس)
  - بريطانية (بريش إيه / رولزرويس)
  - جرمانية (كروجر / كمبريا)
  - صينية (كانثيك)
الإنتاج المدني الرئيسي للهيئة العربية للتصنيع

مشروعات البنية والتقنية الأساسية:
- محطات معالجة مياه الشرب (معالجة مياه البحر / تنقية المياه السطحية / إزالة عسر مياه الأبار)
- محطات معالجة مياه الصرف الصحي / صناعي / صناعي - وحدات تحليل القمامة لسماد عضوي - أنظمة
الاحتراق النظيف لكميات الطوب والأفران - إدراج ورش توليد الكهرباء من طاقة الرياح - السخانات
الشمسية.

صناعة السيارات:
- سيارات الركوب (جيب رانجر وشروكي / بيجو 405 و 4 جيبيكرا - عربات الاطفاء
والإنقاذ - عربات صيانة أطقم الكهرباء - السيارات المصفحة - عربات نقل الاموال - سيارات النقل
النقل - تجهيز سيارات الاتصال والعوائد المنتجة.

المعدات الرسمية وقطع الغيار والأجزاء
- مروحيات الغلال - شفافات الغلال - خطوط إنتاج شركات الدخان - ولاعات الأفران السولارية
والغازية - معدات المطارات - صمامات البوتاجازات.

منتجات المواد المركبة والبلاستيك:
- منتجات الفيبرجلاس (صفقات الكراسي / أعمدة أثاث / ريش تربينات).
- محاور الرياح عالية ومتوسط الكثافة (مرآب شرب / مياه صرف صحي / غاز طبيعي)
- منتجات البلاستيك (المواس / أجزاء الإجهزة المنزلية / إدراج المناولة والتخزين).

المعدات الطبية:
- الإسارة الطبية (عنةة مركزية / فور كامل / نصف فور / العلاج الطبي).
- وحدات تعييم الماء
للإغراض الطبية - إجهزة التعقيم.

تصنيع وتجهيز عربات السكك الحديدية:
- تصنيع وتجهيز عربات السكك الحديدية - الفرص الهوائية - مثبتات القباب - اكصدامات
العربات - سرعات محركات القدرة الإضافية التوربينية للقطارات.

الإجهزة الإلكترونية والكهربائية:
- السنترات الإلكترونية - ماكينات تصوير المستندات -
شركة حبيش للأعمال الهندسة إحدى شركات مجموعة حبيش المتخصصة في مجال تصنيع الأنظمة المتكاملة لشبكات الصرف الصحي والصناعي من البولي ايثيلين عالي الكثافة وتشمل:

1- المواسير الحلوانية من البولي إيثيلين عالي الكثافة بأقطار من 0.160 مم إلى 1.500 مم المصنعة طبقا للمواصفات الألمانية DIN 1691 والتي تتميز بمقاومتها العالية للنحر والأشعة فوق البنفسجية والكيميائيات بالإضافة إلى خفة الوزن وقابليتها للتصليح باللحام بما يضمن عدم التسريب.

2- غرف التغليظ من البولي إيثيلين عالي الكثافة بمختلف التصميمات حتى قطر 1.200 مم والتي تتميز بخمول الوزن وتقلل التكاليف الإنشائية وسرعة التنفيذ للمشروعات.

3- خزانات شبكات الحريق وشبكات التبريد بتصاميم مبتكرة تتناسب مع مساحة المنشأة من البولي إيثيلين عالي الكثافة بسعات مختلفة حتى 100 متر مكعب.

4- القيام بجميع أنواع اللحام بالموقع للمواسير البولي إيثيلين عالي الكثافة بحدث المعدات الألمانية BUTT WELDING ELECTROFUSION WELDING وبأطقم مدربة.

هذا ويعتبر شركة حبيش للأعمال الهندسية على الشركة الشقيقة لشركة تكنوبلاتس للصناعات البلاستيكية في توريد جميع المواسير ومستلزماتها من البولي إيثيلين عالي الكثافة لشبكات مياه الشرب والحرق وخلافه للمقاسات من 0.120 مم - 0.500 مم.
جمعية تكنولوجيا المياه

جمعية تكنولوجيا المياه جمعية غير حكومية مشهورة تحت رقم 1623 لسنة 2004 وعملت على تأسيسها مجموعة من الخبراء وأساتذة الجامعات بمدف:

1- النوعية بأهمية قضية المياه بجميع أبعادها الاقتصادية والاجتماعية على المستوى الخلي والعربي والدولي.
2- النوعية بأهمية المحافظة على الموارد المائية وتشديد استخدامها.
3- دعم ونشر التكنولوجيات الحديثة الخاصة بمعالجة المياه وتخزين المياه.
4- تنظيم الدورات التدريبية في مجال إدارة الطلب على المياه ومعالجة المياه.
5- تنظيم اللقاءات العلمية المكملة إلى النوعية بقضية المياه وأبعادها.
6- عمل دراسات ومشاريع بحثية في مجال المحافظة على الموارد المائية وإدارة الطلب على المياه.

وباكورة نشاط الجمعية هو الاشتراك في تنظيم المؤتمر الدولي الثامن لتكنولوجيا المياه.
وتهدف الجمعية إلى تنظيم عدد من الدورات التدريبية في مجال المحافظة على الموارد المائية من التلوث وتكنولوجيا تحلية المياه ومعالجة المياه بالإضافة إلى عدد من ورش العمل في المواضيع القومية الهامة مثل:

- المياه وتنمية المناطق المعزولة في مصر.
- التركيب المخصص ودوره في تشديد استخدام المياه.
- إدارة الطلب على المياه.
- تقدير القيمة الاقتصادية للمياه.

******

63
<table>
<thead>
<tr>
<th>NAME</th>
<th>SESSION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abadir, M. F.</td>
<td>17</td>
</tr>
<tr>
<td>Abd El Shafi, E.</td>
<td>18</td>
</tr>
<tr>
<td>Abdel Basier, E. I.</td>
<td>9</td>
</tr>
<tr>
<td>Abdel Naby, A.A.</td>
<td>9</td>
</tr>
<tr>
<td>Abdel-Gawad, H.A.A.</td>
<td>9, 10</td>
</tr>
<tr>
<td>Abdel-Gawad, S.</td>
<td>18</td>
</tr>
<tr>
<td>Abdel-Mawgoud, A.S.A.</td>
<td>18</td>
</tr>
<tr>
<td>Abouzeid, G. A. A.</td>
<td>16</td>
</tr>
<tr>
<td>Abu Heen, Z.H.</td>
<td>6</td>
</tr>
<tr>
<td>AbuNahia, M. A.</td>
<td>7</td>
</tr>
<tr>
<td>Afshar, A.</td>
<td>14, 15</td>
</tr>
<tr>
<td>Afshar, M. H.</td>
<td>9</td>
</tr>
<tr>
<td>Ahmed, A. F.</td>
<td>13</td>
</tr>
<tr>
<td>Ainer, N. G.</td>
<td>7</td>
</tr>
<tr>
<td>Al-Ahmadi, M. E.</td>
<td>6</td>
</tr>
<tr>
<td>Al-Chiblak, M. M.</td>
<td>5</td>
</tr>
<tr>
<td>Al-Darir, A. N. N.</td>
<td>1</td>
</tr>
<tr>
<td>Aldoubiat, M.</td>
<td>1</td>
</tr>
<tr>
<td>Alforjani, S.</td>
<td>12</td>
</tr>
<tr>
<td>Al-Futaisi, A.</td>
<td>18</td>
</tr>
<tr>
<td>Alhamid, A. A.</td>
<td>15</td>
</tr>
<tr>
<td>Alimohammadi, S.</td>
<td>14</td>
</tr>
<tr>
<td>Al-Ismaili, A. M.</td>
<td>12</td>
</tr>
<tr>
<td>Al-Jamrah, A.</td>
<td>18</td>
</tr>
<tr>
<td>Al-Kashouty, M.</td>
<td>6</td>
</tr>
<tr>
<td>Al-Sarawy, A. A.</td>
<td>2, 11</td>
</tr>
<tr>
<td>Ammar, G.</td>
<td>10</td>
</tr>
<tr>
<td>Attia, K.</td>
<td>5</td>
</tr>
<tr>
<td>Aziz, M.</td>
<td>8, 14</td>
</tr>
<tr>
<td>Badawy, H.</td>
<td>5, 7</td>
</tr>
<tr>
<td>Bakry, M.</td>
<td>8</td>
</tr>
<tr>
<td>Balachandran, K. K.</td>
<td>6</td>
</tr>
<tr>
<td>Barakat, R.</td>
<td>11</td>
</tr>
<tr>
<td>Baziar, M. H.</td>
<td>8</td>
</tr>
<tr>
<td>Benaiissa, H.</td>
<td>2, 17</td>
</tr>
<tr>
<td>Bhattarai, K.</td>
<td>7</td>
</tr>
<tr>
<td>Boroumand, A.</td>
<td>8</td>
</tr>
<tr>
<td>Cordery, I.</td>
<td>7</td>
</tr>
<tr>
<td>Dawod, G. M.</td>
<td>14</td>
</tr>
<tr>
<td>Djebbedjian, B.</td>
<td>3, 15, 15</td>
</tr>
<tr>
<td>Donia, N.</td>
<td>4</td>
</tr>
<tr>
<td>El Sabbagh, A.</td>
<td>6</td>
</tr>
<tr>
<td>Name</td>
<td>Pages</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------</td>
</tr>
<tr>
<td>El Shafei, M. M.</td>
<td>17</td>
</tr>
<tr>
<td>El-Alfy, K. S.</td>
<td>4</td>
</tr>
<tr>
<td>Elbarbary, Z.</td>
<td>4</td>
</tr>
<tr>
<td>Elbary, O. A.</td>
<td>2</td>
</tr>
<tr>
<td>El-Bassioni, A. A.</td>
<td>11</td>
</tr>
<tr>
<td>El-Ezaby K. H.</td>
<td>2</td>
</tr>
<tr>
<td>El-Gamal, H. F.</td>
<td>2</td>
</tr>
<tr>
<td>El-Gamal, M.</td>
<td>9</td>
</tr>
<tr>
<td>El-Hak, N. G.</td>
<td>9, 9</td>
</tr>
<tr>
<td>El-Halwany, M. M.</td>
<td>11</td>
</tr>
<tr>
<td>El-Manharawy, S.</td>
<td>12</td>
</tr>
<tr>
<td>El-Menshawy, N.</td>
<td>9</td>
</tr>
<tr>
<td>El-Nahhas, K.</td>
<td>9</td>
</tr>
<tr>
<td>Elouchdi, M-A.</td>
<td>2</td>
</tr>
<tr>
<td>El-Sadek, A.</td>
<td>18</td>
</tr>
<tr>
<td>El-Samman, T. A.</td>
<td>13</td>
</tr>
<tr>
<td>El-Sarraf, S.</td>
<td>3</td>
</tr>
<tr>
<td>El-Sawaf, I.</td>
<td>9, 9</td>
</tr>
<tr>
<td>El-Sersawy, H.</td>
<td>4, 5, 13</td>
</tr>
<tr>
<td>El-Shaikh, A.</td>
<td>9</td>
</tr>
<tr>
<td>El-Shall, F. M.</td>
<td>3</td>
</tr>
<tr>
<td>Elsheik, M. A.</td>
<td>11</td>
</tr>
<tr>
<td>El-Zeky, M. A.</td>
<td>3, 3, 12</td>
</tr>
<tr>
<td>Fadel, A.</td>
<td>11</td>
</tr>
<tr>
<td>Fahmy, A.</td>
<td>5</td>
</tr>
<tr>
<td>Fath, H. E. S.</td>
<td>3, 3, 3, 12, 12</td>
</tr>
<tr>
<td>Fouad, M.</td>
<td>11</td>
</tr>
<tr>
<td>Ghanei, M.</td>
<td>3</td>
</tr>
<tr>
<td>Ghazali, A. M.</td>
<td>7, 14</td>
</tr>
<tr>
<td>Groendijk, L.</td>
<td>2</td>
</tr>
<tr>
<td>Gure, M.</td>
<td>8</td>
</tr>
<tr>
<td>Haddad, O. B.</td>
<td>14, 14, 15</td>
</tr>
<tr>
<td>Hafez, A.</td>
<td>12, 13</td>
</tr>
<tr>
<td>Hafez, Y.</td>
<td>4, 5</td>
</tr>
<tr>
<td>Haidera, M. A.</td>
<td>13</td>
</tr>
<tr>
<td>Han, M.</td>
<td>11</td>
</tr>
<tr>
<td>Hanafy, M.</td>
<td>2</td>
</tr>
<tr>
<td>Hanna, M. A.</td>
<td>2</td>
</tr>
<tr>
<td>Hocini, N.</td>
<td>8</td>
</tr>
<tr>
<td>Hosny, M.</td>
<td>16</td>
</tr>
<tr>
<td>Husseini, W. O.</td>
<td>7, 18</td>
</tr>
<tr>
<td>Ibrahim, G.</td>
<td>17</td>
</tr>
<tr>
<td>Ibrahim, H.</td>
<td>8</td>
</tr>
<tr>
<td>Ibrahim, M. A. M.</td>
<td>7</td>
</tr>
<tr>
<td>Ibrahim, M. S.</td>
<td>17</td>
</tr>
<tr>
<td>Ismaiel, S. S.</td>
<td>8, 14</td>
</tr>
<tr>
<td>Jarrafa, A.</td>
<td>6</td>
</tr>
<tr>
<td>Jayyousi, A.</td>
<td>6</td>
</tr>
<tr>
<td>Joseph, T.</td>
<td>6</td>
</tr>
<tr>
<td>Kadri, S.</td>
<td>11</td>
</tr>
<tr>
<td>Name</td>
<td>Page</td>
</tr>
<tr>
<td>-------------------</td>
<td>------</td>
</tr>
<tr>
<td>Karaaslan, S. I.</td>
<td>18</td>
</tr>
<tr>
<td>Karakish, A. A. K.</td>
<td>6</td>
</tr>
<tr>
<td>Karameildin, A.</td>
<td>3</td>
</tr>
<tr>
<td>Karkee, M. B.</td>
<td>1</td>
</tr>
<tr>
<td>Kassab, S.</td>
<td>9</td>
</tr>
<tr>
<td>Kwak, D.</td>
<td>11</td>
</tr>
<tr>
<td>Liaghat, A.</td>
<td>17</td>
</tr>
<tr>
<td>Loucif, N.</td>
<td>11</td>
</tr>
<tr>
<td>Lubbad, S. H.</td>
<td>6</td>
</tr>
<tr>
<td>Mabrouk, A. A.</td>
<td>3, 3, 12</td>
</tr>
<tr>
<td>Madgani, S. S.</td>
<td>3</td>
</tr>
<tr>
<td>Mahmood, U.</td>
<td>2</td>
</tr>
<tr>
<td>Mahmoud, M. K.</td>
<td>1</td>
</tr>
<tr>
<td>Mahmoud, S. S.</td>
<td>12</td>
</tr>
<tr>
<td>Marió, M. A.</td>
<td>15</td>
</tr>
<tr>
<td>Meddour, A.</td>
<td>11</td>
</tr>
<tr>
<td>Mohamed, H. I.</td>
<td>4, 16</td>
</tr>
<tr>
<td>Mohamed, M. S.</td>
<td>3, 15</td>
</tr>
<tr>
<td>Mohammadi, T.</td>
<td>17</td>
</tr>
<tr>
<td>Moheb, A.</td>
<td>17</td>
</tr>
<tr>
<td>Mondy, A-G.</td>
<td>15</td>
</tr>
<tr>
<td>Mostafa, A. H.</td>
<td>2</td>
</tr>
<tr>
<td>Mostafa, M. H.</td>
<td>2</td>
</tr>
<tr>
<td>Mostafa, N. H.</td>
<td>16</td>
</tr>
<tr>
<td>Moulla, A. S.</td>
<td>8</td>
</tr>
<tr>
<td>Nafey, A. S.</td>
<td>3, 3, 12</td>
</tr>
<tr>
<td>Naggar, O. M.</td>
<td>14</td>
</tr>
<tr>
<td>Nasri, H.</td>
<td>11</td>
</tr>
<tr>
<td>Nia, S. R. R.</td>
<td>10</td>
</tr>
<tr>
<td>Özdemir, M.</td>
<td>8</td>
</tr>
<tr>
<td>Özdemir, Y.</td>
<td>5</td>
</tr>
<tr>
<td>Özış, Ü.</td>
<td>5</td>
</tr>
<tr>
<td>Pamipillil, J. S.</td>
<td>6</td>
</tr>
<tr>
<td>Perret, J. S.</td>
<td>12</td>
</tr>
<tr>
<td>Radhwan, A.</td>
<td>12</td>
</tr>
<tr>
<td>Radwan, M.</td>
<td>18, 18</td>
</tr>
<tr>
<td>Rahmany, M.</td>
<td>10</td>
</tr>
<tr>
<td>Rashed, E. M.</td>
<td>2</td>
</tr>
<tr>
<td>Rashed, I. G.</td>
<td>2, 11</td>
</tr>
<tr>
<td>Rayan, M. A.</td>
<td>3, 9, 15, 15</td>
</tr>
<tr>
<td>Razmi, A.</td>
<td>17</td>
</tr>
<tr>
<td>Rustu, I.</td>
<td>8</td>
</tr>
<tr>
<td>Saad, S.</td>
<td>8</td>
</tr>
<tr>
<td>Saadaawy, M. S.</td>
<td>12</td>
</tr>
<tr>
<td>Sablani, S. S.</td>
<td>12</td>
</tr>
<tr>
<td>Sabry, T.</td>
<td>17</td>
</tr>
<tr>
<td>Sadek, N.</td>
<td>14</td>
</tr>
<tr>
<td>Sadrazadeh, M.</td>
<td>17</td>
</tr>
<tr>
<td>Said, A.</td>
<td>18</td>
</tr>
<tr>
<td>Salam, G. A.</td>
<td>13</td>
</tr>
</tbody>
</table>
Saleh, M. M. .......................................................... 2
Saleh, O. N. .......................................................... 17
Sarraf, B. S. .......................................................... 10
Sayed, S. K. I. .......................................................... 2
Seibert, U. .......................................................... 3
Serrag, S. A. .......................................................... 14
Shadeed, S. .......................................................... 6
Shaheen, H. Q. .......................................................... 6
Shalan, S. N. .......................................................... 7
Shawky, Y. .......................................................... 5
Shmela, S. N. .......................................................... 14
Soumati, B. .......................................................... 11
Tabatabaei, S. H. ....................................................... 17
Tugrul, A. B. .......................................................... 18
Turkman, A. .......................................................... 5
Umamaheswaran, M. ................................................. 3
Upadhyay, B. .......................................................... 7
Vogt, G. .............................................................. 3
Wali, F. K. M. .......................................................... 2
Yaseen, A. ............................................................. 15
Yildirim, H. ........................................................... 8
Zaki, S. ............................................................... 17
Zardari, N. U. H. ....................................................... 7
Zeydan, B. A. .......................................................... 1