

An interview about **EnviroArabia 2007** was held with Dr. Khaled A. Al Abdulkader (Chairman) and Dr. Abdulaziz M. Al Suwailem (Director) in a meeting by Mr. Dar:

Dar: Dr. Khaled could you pls tell me briefly about **EnviroArabia 2007**?

Dr. Khaled: ETMA is partnering with Bahrain Society of Engineers are holding a big conference every two years, in this context, **EnviroArabia 2007** is the ETMA's 5th specialty conference on Environmental Progress in Petroleum and Petrochemical Industries under the theme "Environmental Sustainability and Future Challenges".

Dar: Dr. Khaled, What else is in the conference?

Dr. Khaled: Besides conference, there will be 6 important pre-conference technical workshops and an Exhibition will be held conjunction to the conference.

Dar: Six pre-conference works, whom these workshops will benefit?

Dr. Khaled: These workshops will be held on 21 and 22 April 2007 which will provide a convenient opportunity to develop and refresh technical skills, get up to date on recent developments, and to prepare for the Fundamentals portion of the Qualified Environmental Professional (QEP) exam. As an ETMA chairman, I am satisfied that with the world-class instructors for conducting these workshops, all attendants are going to gain significant amount of knowledge and experience. Surely it is going to yielding good results to them in near future.

Dar: Dr. Abdulaziz what about exhibition?

Dr. Abdulaziz: As mentioned by Dr. Khaled, ETMA always prepare ground for running an Exhibition in conjunction to the conference. This exhibition provide excellent opportunity to the service provider and companies related to environment to exhibit there services and products which benefits all professional organization to get familiar with services and products of different companies.

Dar: How many technical papers do you expect to be addressed in EnviroArabia 2007?

Dr. Abdulaziz: We have been receiving tremendous response not only from GCC but world wide authors to present their papers in EnviroArabia 2007. Due to time limitation we can't accept more than 80 technical papers; however, there will be poster sessions in the Conference as well.

Dar: How do you compare EnviroArabia 2007 with previous conference?

Dr. Abdulaziz: EnviroArabia 2007 is certainly going to be different than our previous conferences. We have gained vast experience from the previous conferences and we are very meticulous about each and every thing related to the conference. We expect to touch very critical issues related to environment by potential authors. In particular this year the conference is contemporary and will address the current international trend for industries to operate.

Dar: Finally, any word or message to the members/readers.

Dr. Khaled: The most important aspect of the conference is gathering the latest technical advancement of the different environment fields that will be discussed in the conference such as air quality, dust and sand control,

EIA practice and development, environmental management, contaminated site remediation, oil spill management, waste management, and wastewater technologies. All that will be under one roof to share their knowledge and to exchange information on respective subjects. I am sure all professionals, engineers, technical people related to environmental fields will certainly benefit from the conference scientific events .

"I am satisfied that with the world-class instructors conducting these workshops, all attendants are going to gain significant amount of knowledge and experience. Surely it is going to yielding good results to them in near future" stated by Dr. Khaled



Photograph during interview

Technical Dinner Meeting February 21, 2007

Real-Time Environmental Monitoring Applications in the Industry



Certificate of Appreciation being awarded to sponsoring company

The Technical Dinner meeting was held under the theme "**Real-Time Environmental Monitoring Applications in the Industry**" in which two speakers delivered presentation. This events was sponsored by **Gulf Advanced Control Systems (GACS– Arabia)**, ETMA takes this opportunity to thank the company for lending us hand to create awareness pertaining to environmental issues. A certification of appreciation was awarded the company representative by ETMA chairman.

Like GACS-Arabia, any one can

sponsor such event. For any comments, query regarding sponsoring such event, may contact us at etma@kfupm.edu.sa

Committed to preserve the natural environment and create more environmental awareness, ETMA held a Technical Dinner meeting in the Kingdom of Bahrain which signifies dedication & commitment.

Detection and Quantification of Anthropogenic Air Pollutants Using Fourier Infrared Technology

Air pollution is a ubiquitous problem in the world in general, and in industry in specifically. Of particular concern to the petrochemical industry are:

BTEX – benzene, toluene, ethyl benzene and the xylenes.
NO_x - nitric oxide and nitrogen dioxide
SO₂ - sulfur dioxide
O₃ - ground level ozone production

Measurements of these components were historically achieved using a

number of different methods including:

NO_x - Chemiluminescence
BTEX - Gas chromatography
SO₂ - Ion chromatography, UV fluorescence
O₃ - UV spectrsoscopy

While possible to measure all components of interest using a combination of these and other techniques, it is cumbersome, expensive and prone to other problems.



Mr. Steven V Plowman delivering presentation



Chairman awarding Certificate of Appreciation to Mr. Plowman

Technical Dinner Meeting February 21, 2007

Advanced Water Quality Monitoring Systems in the Middle East

One million tonnes of oil are spilled each year, as part of normal operations, into the Arabian Gulf. This pollution has a large and difficult to measure effect on the environment and the organisms living within it. The shallow nature of the Gulf and its current flows mean that pollutants can become concentrated exacerbating the effect they have on wildlife. To fully understand this issue, reliable long term data is needed to examine and analyze the trends associated with declining water quality.

A systematic and well-planned monitoring program can identify water

quality problems and help answer the questions critical to their solutions. Useful monitoring data will accurately portray the current chemical, physical, and biological status of the sea or ocean. This type of information, collected systematically over time, can establish a record of water quality conditions in a water body.

This presentation will outline the main physical, chemical and biological parameters routinely applied to measure the water quality of marine and fresh water environments



Chairman awarding Certificate of Appreciation to Mr. Hassan Al Salem



Pictures during the Technical Dinner Meeting 21 February 2007

New Members

1. Mr. Fouad M. Al Saeedi works as Engineer for Generation Engineers, Jeddah
2. Mr. Abdul Rahman M. K. Al Shahri is General Manager of A. M. Al Kalthomi Est. Al-Khobar
3. Mr. Abdullah Vallur works for A. M. Al Kalthomi Est., Al-Khobar
4. Mohammad Saleh Bin Jubair is a student in KFUPM

Benefits for ETMA members:

- 1 Free admission to the ETMA monthly technical dinner meetings, information exchange and networking.
- 2 Discounted rate for registration to AWMA Specialty conferences
- 3 QEP training
- 4 Discounted rate for registration of Workshops and Short Courses
- 5 ETMA newsletters
- 6 ETMA environmental news/ event update
- 7 Publishing of articles to our website
- 8 ETMA Environmental directory and many more!!!

So, what are you waiting for, visit www.etma-sa.org to download membership application form to avail these benefits and also share this with your colleagues and friends.



Desert Environment and Xerophytes

Deserts generally occur in the regions where annual rainfall is less than 250mm and even this meager amount is unreliable and unevenly distributed. Rub Al-Khali (Empty Quarter) is the largest sand desert in the world that lies in the southern part of the Arabian Peninsula. It covers an area of about 647,497 km² that is one quarter of the Arabian Desert (about 2,589,988 km²). Rub Al-Khali ecoregion falls within the Arabian Desert and East Saharo-Arabian xeric shrublands. It crosses over from Saudi Arabia into the western Oman and eastern Yemen. The main geomorphic landscape consists of mobile sand dunes, sand sheets, gravel plains, bedrocks, and sabkha areas. In general, Rub Al-Khali desert environment is hostile for living organisms. The limiting factors in such hostile desert environment include the scarcity of water during most of the year, high light intensity accompanied by high summer temperatures, low winter temperatures, and high fluctuation in temperature. The strong 'Shamal' winds coinciding with rising early summer temperatures also contribute to high moisture stress for plant life. Sand in the desert ecosystem is a blessing to the vegetation and the adapted fauna. Water absorbed by sand from whatever little precipitation, is almost entirely conserved. This is the main phenomenon that supports the survival of perennial vegetation over prolonged and frequent periods of drought in a sandy desert ecosystem. In absence of sufficient precipitation, only xerophytic plants are established in desert environment which are widely spaced. The xerophytes are the plants that are able to resist drought and to some extent salinity, which possess morphological, anatomical or physiological adaptations to survive

The xerophytes are the plants that are able to resist drought and to some extent salinity, which possess morphological, anatomical or physiological adaptations to survive under arid conditions.

under arid conditions. The xerophytes are also known as drought resistant plants, which can exactly be defined as those plants which in the process of ontogenesis are able to adapt to the effect of drought. These plants can normally grow, develop and reproduce even under severe drought conditions because of a number of properties (e.g. thicker cuticle, reduction in the number of stomata and transpiration surface size, thicker leaves and stems, silvery reflective hairs on leaf surfaces, corky bark root cover, deep tap roots and a low level growth pattern) acquired in the process of evolution under the influence of environmental conditions and natural selection. These properties help them to overcome unfavorable micro and macro environmental conditions. The xerophytic perennial shrubs adapted to psammic environment have an extensive root system, the tap roots going deep down in the soil while the "feeder" roots develop an extensive subsurface network to draw every little bit of available moisture and nutrients. The two main xerophytic species (Figure 1 and 2) that have adapted to sand desert environment are: *Calligonum comosum* thrives in active sand areas where sand burial works as a growth stimulant, a characteristic that allows it to grow high up on sand formations. *Carnulaca sp.* and *Calligonum sp.* have protective corky bark root cover that provides an effective defense against active sand deflation.

Mr. Maqbool H. Khan is Scientist in the CEW/RI, King Fahd University of Petroleum & Minerals . He received his M.Sc (Hons) and B.Sc (Hons) degrees in terrestrial ecology from the University of Agriculture, Lyallpur, Pakistan.



Figure 1. A xerophytic shrub (*Calligonum sp.*) established in a sand dune environment of Rub Al-Khali desert.



Figure 2. A xerophytic shrub (*Cornulaca sp.*) established in a sand dune environment of Rub Al-Khali desert.

EnviroArabia 2007 Pre-Conference Workshops



Mr. E. V. Bousel

MARPOL Annex VI Regulations on Marine Fuels/Air Emissions, Sun, Apr 22
MARPOL Annex VI, the main international convention that regulates air pollution from ships, entered into force on May 2005 after 15 countries with greater than 50% world's shipping tonnage ratified the Annex.

Conducted by: Mr. Eddy van Bouwel is Team Lead of the European Regulatory Advisors Group within ExxonMobil's Global Downstream and Chemical SHE organization, Eddy is closely involved with the development of environmental legislation.



Mr. Tim C. Keener

Environmental Practices Review, Saturday, April 21

This course is designed to be a thorough review of the chemistry, physics, biology, mathematics, and engineering principles, which are important for passing the Fundamentals portion of the Qualified Environmental Professional (QEP) exam.

Conducted by: Tim Keener is a Professor and member of the faculty of the Civil & Environmental Engineering Department of the University of Cincinnati.



Mr. Leo H. Stander

Introduction to Air Pollution Control, Sun, April 22

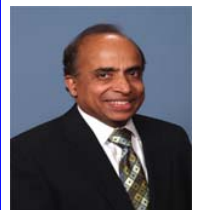
This course explains the principles and practice of air pollution control and presents an overview of air quality management.

Conducted by: Leo H. Stander is an environmental engineering consultant specializing in air quality strategies, air pollution permitting, and training. He has over 35 years experience in the air pollution field, including over 22 years in U.S.

Environmental Impacts of Industrial Processes, Sat and Sun, April 21-22

This two-day course provides an overview of environmental impact assessments (EIA) for industrial processes. The course will cover techniques used by impact assessment professionals for the identification, prediction, and evaluation of impacts.

Conducted by: Dr. Ramanan, a Fulbright and an AWMA Fellow, is a recognized environmental professional with over 30 years of industry experience in managing environmental programs, regulations and technologies.



Dr. Ram Ramanan, PhD,
PE, BCEE, MBA

AEAERMOD for Air Quality Impact Analysis, Sat and Sun, April 21-22

This two-day course provides hands-on instruction using AERMOD, U.S. EPA's preferred air quality dispersion models for air quality impacts due to industrial sources. It includes a brief theoretical review and emphasizes formulating and conducting an air quality analysis utilizing AERMOD.

Conducted by: Dr. Sung joined Trinity Consultants in 1989 after she received her Ph.D. in Environmental Engineering from Vanderbilt University. She is the Director of Quality and Technology at Trinity.



H. M. Sue Sung, PhD.

Membrane Biological Reactor Design Operations and Maintenance, Sun, Apr 22

The objective of this Workshop is to provide the participants with design, operations and maintenance information on the two main types of MBR technology - spaghetti membranes (Zenon technology) and flat sheet membranes (Kubota - ACWA technology).

Conducted by: Mazen Bachir obtained his Bachelor of Science in Chemistry from AUB (American University of Beirut), and Masters in Chemical Engineering with first honors from University of Manchester, Institute of Science and Technology.



Mr. Peter Ohle, ITO
VP for Zenon Products

For more details please visit <http://www.enviroarabia.org/workshops.htm>

EnviroArabia 2007: Key Note Speakers



Mr. Abdullatif A. Al Othman
Sr. Vice President, Finance

Mohamed F. Dahab, Ph.D., P.E., DEE

University of Nebraska-Lincoln and Water Environment Federation

Dr. Dahab is the current President of the Water Environment Federation (WEF) as well as Professor and Chair of the Department of Civil Engineering at the University of Nebraska-Lincoln. He is widely recognized for his research in the areas of nitrate removal from groundwater supplies using biological denitrification; nutrient removal from wastewater; the use of wetlands and natural systems for small-community wastewater treatment; and pollution prevention and waste minimization in the areas of solid and hazardous waste management engineering. He is an active collaborator with many leading national and international environmental engineering and science programs.



Mohamed F. Dahab
PhD., P.E., DEE

Alan W. Gertler

Desert Research Institute



Alan W. Gertler

Dr. Gertler is a Research Professor at the Desert Research Institute, Reno, NV. His research includes studies of atmospheric chemistry with particular emphasis on the impact of mobile sources on the environment and the development of new methods to attribute observed pollutant levels to specific sources. He has investigated discrepancies between observed and predicted automotive emission factors, measuring CO, CO₂, NO_x, speciated NMHC, dioxins and furans, and organic and inorganic speciated PM_{2.5} and PM₁₀

emissions from on-road vehicles, and assessing the impact of mobile source emissions on ambient particulate levels.

His current research includes measurements and characterization of mobile source PM₁₀ and PM_{2.5} emissions, development of new methods to attribute observed PM levels to specific sources, assessing the magnitude and sources of atmospheric deposition in an alpine lake, the development of atmospheric sensors for mercury and air toxins, and the use and deployment of alternative transportation fuels including biomass and hydrogen.



Daniel J. Sullenbarger

DANIEL J. SULLENBARGER

Vice President, Corporate Responsibility for Marathon Oil Corporation.

Mr. Sullenbarger joined Marathon in 1975 and held a number of positions in the law organization in Findlay, Ohio; London and Houston. After serving in three senior counsel positions in Houston, he was appointed general attorney, refining, marketing, supply & transportation in Findlay in 1991. In 1994, he was appointed to the position of group counsel, worldwide exploration & production in Houston.

PHILIP J.W. ROBERTS, PHD, PE

Professor of Civil and Environmental Engineering Georgia Institute of Technology, Atlanta, Georgia, USA



Philip J. W. Roberts

Dr. Roberts' professional interests are in environmental fluid mechanics, particularly density-stratified flows and their effects as they occur in lakes, estuaries, and coastal waters.

This includes mixing and dynamics of natural water bodies, the engineering design of intakes and ocean outfalls, mathematical modeling of water quality, field studies, and laboratory studies using sophisticated instrumentation of mixing in stratified fluids.

EnviroArabia 2007: Key Note Speakers



Dr. Eng. A. Basel Al-Yousfi

Dr. Eng. A. Basel Al-Yousfi, Ph.D., PE, DEE
UNEP-ROWA

Dr. Al-Yousfi is the Deputy Regional Director and the Regional Technology, Industry & Economics Officer at the United Nations Environment Program in West Asia. He has Ph.D. and M.S. in Environmental Engineering from the USA, and a B.Sc. in Civil Engineering from Syria. Dr. Al-Yousfi is Board Certified by the American

Academy of Environmental Engineers. His career prior to the UN includes collectively ten years in the international Chemical Industry, and Professorship at the University of Central Florida and Marshall University. He is the Associate Editor of a major scientific Journal of ASCE, has over 50 publications in peer-reviewed journals and refereed conference proceedings.

Mr. Ian Sealy

Mr. Sealy completed his Engineering degree from University College, University of London, UK, Chartered (registered professional) engineer in UK and in Europe.

He is the Member of the Institution of Occupational Safety & Health (IOSH), UK & Fellow of the Institution of Engineering & Technology (IET), UK. Currently he is conducting research into sustainability management systems in global businesses at University of Surrey, UK.

He Joined Schlumberger as field engineer 1979, worked in field operations in Europe & Africa until 1993. QHSE management roles with Schlumberger in North Sea (1993-1996) and USA (1997-2003), before taking current assignment as Environmental Programs Manager for Schlumberger at HQ in Paris, France in 2004.



Mr. Ian Sealy

Richard H. Schulze, P.E., QEP



Richard H. Schulze

Richard Schulze received a B.S.E. degree in mechanical engineering from Princeton University and an M.B.A. degree from Northwestern University. He is a registered Professional Engineer, a Qualified Environmental

Professional, and a Diplomat of the American Academy of Environmental Engineers. In 1974 he founded Trinity Consultants. This firm has completed more than 5000 projects. Many have involved dispersion modeling studies, air quality permits, PSD permits, and SIP revisions. In 1975, he developed and taught a two-day short course on dispersion modeling that has become the benchmark course of its type in the world. He has authored more than 50 articles. He was a founder of the North Texas chapter of the Air & Waste Management Association (A&WMA).

LISA R. HENTHORNE

Ms. Henthorne is a Vice President and Global Director of Desalination for CH2M HILL, a 15,000 employee engineering and project delivery firm with 165 offices worldwide. Ms. Henthorne holds a B.S. degree in Chemistry from SW Missouri State University; and a MS degree in Chemical Engineering from Colorado School of Mines. She has 21 years of experience in the desalination and water treatment field, and has worked in both the public sector in leadership roles within the U.S. Department of Interior, Bureau of Reclamation desalination research programs and in the private sector consulting engineering industry. Ms. Henthorne is an active member of the American Membrane Technology Association (AMTA) and the American Water Works Association (AMWA), where she has served on numerous committees.



Lisa R. Henthorne

For more information please visit: <http://www.enviroarabia.org/speakers.htm>