

# DEVELOPMENT OF HIGHER EDUCATION SYSTEM FOR WATER ENGINEERING IN SYRIA

KICK OFF MEETING; DAMASCUS, 9-13/1/2011



Higher Institute for water Management (HIWM)

**DR. MAHMOUD AL-SIBAI**

**Acting Dean**

# HIGHER EDUCATION

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- + B.Sc in **Civil Engineering**, Al-Baath University at 1985
- + M.Sc. in **Irrigation Engineering** from the University of Newcastle upon Tyne, UK, at 1992
- + M.Ph. in Water Engineering from the University of Newcastle upon Tyne, UK, at 1993
- + Ph.D. in Engineering from the University of Newcastle upon Tyne, UK, at 1996

# SCIENTIFIC POSITIONS

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- ✖ Associate Professor of water resources at Al-Baath University
- ✖ Member of the Higher Board for Scientific affairs, Al-Baath University from 2008-2010
- ✖ **Director of development and quality assurance** at Al-Baath University 2008-2009
- ✖ **Head of Integrated Water Resources Management Program**, Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) from 2003-2007
- ✖ Consultant, Water resources department, ACSAD
- ✖ **Acting Dean, Higher Institute for Water Management (HIWM)**, Syria, since 2009



# MEMBERSHIP

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- ✖ Member of ***Groundwater Protection in the Arab Region*** Network , UNESCO
- ✖ Member of the ***Arab Wadi Hydrology*** Network
- ✖ International Association of Hydrological Sciences (**IAHS**)
- ✖ Member of a Regional Scenario Team of the United Nations Environment Program, Global Environmental Outlook (**UNEP, GEO4**)
- ✖ Member of international groundwater modelling center (**IGMC**), Colorado, USA
- ✖ Member of the Syrian committee for preparation of Syria's initial national Communication to the **UNFCCC**, Chapter of Vulnerability Assessment and adaptation measures.
- ✖ Member of the Syrian national team to prepare the national academic reference standards (**NARS**) for engineering (Coordinator )
- ✖ Member of Inter-Institutional Professional Network (**IPN**) of Syrian water experts.

# EXPERTISE

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- ✖ Integrated Water Resources Management
- ✖ Mathematical modeling of groundwater flow
- ✖ Quality Assurance in Higher Education

# INVOLVED PROJECTS

- ❑ Mathematical models of groundwater flow in several Arab Basins (Zabadani, Khabour, Hasia, Ghouta, Lower Euphrates, Ras el-Jabal coastal aquifer Basin in Tunisia, Beka'a valley in Lebanon,)
- ❑ Decision Support System for water resources management (ACSAD/BGR/SEI)
- ❑ Management, protection and sustainable use of ground water and soil resources in Arab region (ACSAD/**BGR**).
- ❑ Head of the water resources team for preparing the land use map of Sudan
- ❑ Estimation of actual evapotranspiration and crop water requirements in Palmyra Oasis (ACSAD/**IRD**).
- ❑ Arab Water Resources Mapping and Assessment Project {AWARMAP} (ACSAD/**UNESCO**)
- ❑ Sustainable Use of Groundwater Resources for the Improvement of the Ecological Conditions in Oases in NENA Regions (ACSAD/**IFAD**)
- ❑ Hydrological and hydrogeological study of wadi system in Saudi Arabia
- ❑ Team member for West Asia in "The Future Today" chapter of GEO-4 project (**UNEP**)
- ❑ Climate change impacts on water resources in Syria and adaptation strategies (**UNFCCC**)
- ❑ Vulnerability assessment of Freshwater Resources to Environmental Change in West Asia region, (**UNEP/AGU/ACSAD**)
- ❑ Reform of higher education system in Syria
- ❑ National water resources plan of Syria



# IMPORTANT PAPERS

- M.Al-Sibai, M.A. Adey, D.A. Rose, 1996. Desalinization of structured soils by intermittent leaching; Proceedings of the twenty-eight meeting of the agricultural research modellers group; Journal of Agricultural Science, Cambridge, 127: 131-136
- M.Al-Sibai, M.A. Adey, D.A. Rose, 1997. Movement of solute through a porous medium under intermittent leaching; European Journal of Soil Science, 48: 711-725
- D.A. Rose, M.A. Adey, M. Al-Sibai, 2000. Laboratory experiments and modeling studies of leaching of intermittently drained columns; Australian Journal of Soil Research, 38: 891-903
- M. Al-Sibai, S. Zahra, N. Rofail, 2003. Water Resources Management of Al-Zabadani Basin; Proceedings of WSTA Sixth Gulf Water Conference, 8-12 March 2003, Riyadh
- M. Al-Sibai, E. Koesters, M. Ayadi 2003. Mathematical modelling as a tool for sustainable use of groundwater, case study from Ras El-Jabl, Tunisia. Workshop on Technical, Legal & Institutional Aspects for the Protection of Groundwater & Soil Resources, 6-9 Oct. Tunis
- S. Smaan; M. Al-Sibai, J. P. Brunel 2005: Estimation of evapotranspiration for Palmyra Oasis using energy budget method, Analytical and experimental study, Damascus University Journal for Basic Sciences, 1:21:171-196
- M. Al-Sibai, 2005. Groundwater flow Modeling "Lower Euphrates Valley". Damascus University Journal for Basic Sciences, 2:21:91-113
- M. Al-Sibai, 2005: On Groundwater Models and the Need of Sufficient and Reliable Data, Examples, Dependencies and Interrelations, Proceedings of Seventh Gulf water Conference, 19-23 Nov. 2005, Kuwait
- Droubi, A., Al-Sibai, M., Abdallah, A. Zahra, S. & Obeissi, M. Wolfer, J., Huber, M. Hennings, V. & Schelkes, K 2008: A Decision Support System (DSS) for Water Resources Management, Design and Results from a Pilot Study in SYRIA; In " CLIMATIC CHANGES AND WATER RESOURCES IN THE MIDDLE EAST AND NORTH AFRICA" ed: F Zereini & JW Goethe Environmental science and engineering; ISBN 978-3-540-850-46-5; Germany
- Al-Sibai, M., Droubi, A., Abdallah, A. Zahra, S. Obeissi, M. Wolfer, J., Huber, M. Hennings, V. & Schelkes, K 2008: Incorporate MODFLOW in a Decision Support System for Water Resources Management, Proceeding of Modflow and More international conference, Colorado, USA
- M. Al-Sibai, 2009. Impact of climate change on Syrian water resources, case study. Journal of Al-Baath University, Volume 19, Homs, Syria.