

## Curriculum Vitae



**Nadhir Al-Ansari**

**Surname** : Al-Ansari  
**First name** : Nadhir Abbas  
**Gender** : Male  
**Present Title** : Professor  
**Specialization** : Water Resources and Environmental Engineering  
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### OVERVIEW OF RESEARCH THEMES AND EXPERTISE

#### A. Teaching and supervision:

I taught several undergraduate and postgraduates courses in departments of Civil Engineering and geology at several universities in Europe and the Middle East. I supervised more than 60 MSc and PhD students at several Universities all over the world (Sweden, UK, Australia, Denmark, Jordan and Iraq).

#### B. Research

My principal research interests are in water resources and environment. I have published more than 300 papers in scientific journals and International conferences as well as 12 books in these fields. The main themes addressed are:

- a. **Water Resources Management:** Middle East and North African countries (MENA region) are considered to be arid or semi-arid as the average annual rainfall does not exceed 166 mm. For this reason, the scarcity of water resources in the MENA region, and particularly in the Middle East, represents an extremely important factor in the stability of the region and an integral element in its economic development and prosperity. Prudent water management planning was discussed and solutions to overcome these problems were given in particular at Iraq and Jordan.
- b. **Sediment Budget Studies in Rivers:** One of the greatest challenges facing engineers and geologists is the attempt to establish a realistic fully documented budget for rivers and reservoirs systems. This requires knowledge of the river inputs and outputs, the migration paths and the re-entrainment - recirculation mechanisms within the rivers and reservoirs. Bed, suspended and total loads in major rivers in the Middle East and UK were calculated using direct and indirect methods.
- c. **Mosul Dam:** I was one of the first researchers to highlight the seepage problem of Mosul Dam in 1986. I continued to visit the site and work on the problem. My colleagues and I published several papers about this problem and finally in November, 2015 we published a book that describes the problem, consequences of the failure of the dam and possible solutions.

- d. **Siltation in Reservoirs:** Construction of dams across rivers for the development and management of water resources causes changes in sediment transport regime that will lead to sediment accumulation in their reservoirs. Reservoir sedimentation is the main problem that directly affects the performance of dams due to the reduction in their storage capacity. The distribution of the sediment deposited in reservoirs mainly depends on several factors, but the most important are the grain size composition of the sediment inflow, amount of sediment coming, the reservoir geometry and its age, the locations of the bottom outlets and the reservoir operation mode the trap efficiency of the reservoir. The deposition of sediment in a reservoir causes changes in its stage-area curve and stage-storage capacity curve. These curves are very important for planners, designers and operators of dams and are regarded as one of the most important physical characteristics of dams and their reservoirs. Bathymetric surveys were conducted on major reservoirs and new area storage capacity curves were established. Modeling techniques were also used and compared with actual surveys for future prediction of siltation rates. In addition, trap efficiency was calculated for some of these reservoirs.
- e. **Sediment Characteristics:** Sediments “clastic”, their textures, and responses to environmental processes, with long-term objective rates of erosion and deposition in rivers and reservoirs were conducted on several rivers in UK and the Middle East.
- f. **Climate Change and Water Resources:** Water resources are expected to decline in future in the Middle East region. This fact will increase the friction of the countries involved. Several researches had been conducted to find out the future prospects of rainfall using various modeling techniques. The results were used to find out the possibilities of reducing the water resources shortages in the region. In this context, water harvesting models were used to see the validity of using this technique in the Middle East.
- g. **Groundwater studies:** Groundwater represents the most important resource in the absence of surface water which is the case in the Middle East. Groundwater studies have been conducted on several regions and aquifers. Water quality was evaluated and modeling the risk of Groundwater contamination was carried out using DRASTIC and Modified DRASTIC models under GIS environment.
- h. **Landfill Site selection and design:** Some of the solid waste cannot be reutilized and parts of it are considered hazardous to natural resources and the environment (industrial waste, in particular). Population growth and improvements in living standards lead to significant increases in solid waste production, making solid waste management one of the major issues facing the world today particularly in developing countries. The negative impacts effects of poor solid waste management are potentially most dangerous for those living in third world countries, which are currently home to 80 % of the world's population. Improper solid waste management causes air, soil and water pollution and is often the result of a lack of financial resources. In addition, radioactive waste is an important part of hazardous rest products. The source of radioactive waste includes nuclear power plants, industry, hospitals, research organizations and military nuclear tests and weapons. Site selection criteria and design of landfills were suggested for some areas in the Middle East (particularly in Iraq which suffers from depleted Uranium waste).
- i. **Waste Water Treatment and reuse:** One of the suggested solutions to overcome the water shortage problems is the reuse of treated waste water. Several studies were conducted to evaluate the efficiency of some waste water treatment plants using field data and modeling techniques.

### **C. International Relations:**

Number of projects were directed and executed by me. These projects were supported by several International organizations e.g. World Bank, G-77, UNDP, UNESCO, EU and British Council.

### **D. Other academic activities:**

- a. Within university: I acted as the head of department, Director of research unit and dean within various universities. I participated in different committees for staff and curricula developments as well as other committees within universities (Scientific and postgraduate.... etc). In addition, I acted as the director of several research projects and represented the university in development programs on national level.
- b. Outside the university: Worked as Secretary General of the Geological Society of Iraq and later as the president of the society. I founded the Iraqi Water Resources Society and acted as chairman of the society till 1995. I was a member of the Scientific Council of Iraq and many national committees. I acted as vice president of ICCE.
- c. Member of the editorial board of several national and international journals.
- d. Organized and chaired several national and international symposium and conferences.
- e. Carried out many consultation projects.
- f. Acted as postgraduate examiner for large number of PhD and Master Students in UK, Finland, Germany, Holland, Denmark, Jordan and Iraq.

### **E. Community service:**

- a. I gave number of scientific lectures to the public both in Europe and the Middle East as well as the media (radio, TV and newspapers).
- b. Executed several training courses for the public and lately for university staff development under the supervision of UNESCO.
- c. Wrote number of scientific reports about critical issues (e.g. dangerous situation of Mosul Dam).
- d. Member of several national and international scientific organizations.

## **EDUCATION**

### **Secondary:**

1959-1964 Baghdad College –American School- (Secondary Baccalaureate).

### **University**

1973-1976 Ph.D. Dundee University

1971-1973 M.Sc. Baghdad University

1964-1968 B.Sc. Honours Baghdad University

## THESES

- *Al-Ansari, N. A., 1976*, Sediments and Sediment Discharge in River Earn, Scotland, Ph. D. Thesis, Dundee University.
- *Al-Ansari, N. A., 1973*, Geology of the Southern Part of Jabel Mukhul, M.Sc. Thesis, Baghdad University.

## MEMBERSHIP OF SOCIETIES

- Fellow and Regional Representative (in the Middle East), the Chartered Institution of Water and Environment Management (CIWEM).
- International Association of Hydrological Sciences.
- International Commission for Continental Erosion.
- The Arab Integrated Water Resources Management Network (AWARENET)
- The exclusive International Society of Executives & Professionals

## RECOGNITION AND MERIT AWARDS

### A. Patent:

- Physical methods for the separation of iron oxides (Patent No. 2544 dated 11.10.1994).

### B. Awards:

- Mesopotamia prize for water resources, 1994.
- Iraqi prize for scientific papers in Agriculture and Water Resources sector, 1994.
- Ministry of Higher Education and Scientific Research prize for best postgraduate supervisor, 1993/1994.
- Ministry of Water and Irrigation (Jordan) prize at the International Water Day for scientific contribution and local community services, 1998.
- Jordan Environmental Society prize for scientific contribution and local community services, 1998.
- Jordanian Astronomical Society for contribution for contribution to society, 2001.
- British Council 70th Anniversary, top 5 scientists in Cultural Relations Award, 5th November, 2004.
- Altawasol Scientific award, Government of Iraq, 31st March, 2013.
- Certificate of best paper award, 19<sup>th</sup> International Conference on Water Engineering, Istanbul, Turkey, 26-27 October, 2017.

## EMPLOYMENT RECORD

20/12/2007 - now

Professor at Department of Civil, Environmental and Natural Resources Engineering, Lulea University of Technology, Sweden, and Professor at The Arab Open Academy in Denmark, Department of Environmental management since August, 2008- now.

03/09/1995 – 25/05/2007	Professor at Al-al Bayt University, Jordan.
01/09/2001 – 01/09/2006	Dean of the Institute of Earth and Environmental Sciences – IEES.
03/09/1995 – 24/09/2006	Director of the “Strategic Environment and water Resources Research Unit”, Al-al Bayt University, Jordan.
2001-2003	Chairman of the Council of the Institute of Astronomy and Space Sciences, Al-al Bayt University, Jordan.
01/07-01/09/2003	Acting Dean for Scientific Research and Postgraduate Studies, Al-al Bayt University, Jordan.
05/ 09/ 1995	Expert at Water and Environmental Research and Studies Center, University of Jordan, Jordan.
06 -1988 - April 1995.	Professor at the Department of Geology, Baghdad, University.
01/05/1992 - 29/12/1993.	Chairman, Department of Geology, Baghdad University.
11/1980-1988	Assistant Professor at the Department of Geology, Baghdad University.
11/ 1976-1980.	Lecturer at the Department of Geology, Baghdad University,
011/1968 - 07/1973.	Demonstrator at the Department of Geology, Baghdad University.

## UNIVERSITY TEACHING EXPERIENCE

### A. Undergraduate level:

- Groundwater hydrology.
- Hydrology.
- Hydrochemistry.
- Meteorology.
- General Geology.
- Field Geology.
- Engineering Geology.
- Environmental Geology.

### B. Postgraduate level:

- Advanced hydrogeology.
- Advanced hydrology.
- Sediment transport.
- Water quality.
- Water pollution.
- Hydrology of Rivers.
- Reservoirs.
- Advanced Hydrochemistry.
- Environmental Science.
- Environmental Laws and Policies.
- Interaction of Environmental Elements.
- Geomorphology.
- Sedimentation and soil science.
- Groundwater.
- Sedimentation Engineering.
- Scientific writing of research papers

## COMPUTER COMMAND

- Major part of my Ph.D. thesis is based on computer programming.
- Training course for one month on new computer techniques in 1997.
- Training course for one month on network computer techniques in 1997.
- Training course for one week on Internet computer techniques in 1997.

- Designed computer program on groundwater movement and solute transport using finite element technique with user's manual.
- BLACKBOARD learning system ML.
- HORIZON WIMBA (live class room).

## MAJOR CONFERENCES AND SEMINARS ATTENDED

- Most of the conferences organized by the International Association of Hydrological Sciences (IAHS) since 1976.
- Lectured in various workshops and seminars in Jordan e.g. American AMIDEAST and German Club of Von Humboldt Fellows.
- All the Iraqi Geological conferences, presenting scientific papers (1976-1995).
- All Iraqi Hydrological conferences, presenting scientific papers (1981-1995).
- First European meeting of the International Association of Sedimentology (1980), presenting scientific paper.
- European Geophysical Union Meeting-Edinburgh -U.K. (1992), presenting a keynote paper.
- Artificial recharge of groundwater, Dortmund, Germany (1982).
- Chaired several sessions at the conferences organized by the International Association of Hydrological Sciences (IAHS).
- Organized and chaired all the Water Resources conferences in Iraq (1981-1995).
- Organized and chaired several sessions of the Iraqi Geological Conferences (1976-1995).
- Organized and chaired several sessions of the conferences organized by the Higher Scientific Societies Congress in Iraq.
- Lectured at all the seminars and training courses on hydrology and hydrogeology organized by the Geological Society of Iraq, Scientific Water Resources Society of Iraq and the University of Baghdad-College of Science (1976-1995).
- Lectured at the seminar organized by the Islamic Network on Water Resources Development and Management.
- Presenting scientific papers at two Jordanian Geological Conferences.
- Lectured at more than five seminars organized by Jordan Environmental Society (since 1995).
- Lectured at some British Universities (e.g. University of Wales-Cardiff 1996; Coventry University, 1999; Liverpool John Mores University, 2000).
- All conferences concerning Hydrology, Geology and Environmental sciences held in Jordan for the period 1995-2007.
- International Conference & Exhibition on Mass Mining, MassMin, Lulea, Sweden 9-11 June 2008.
- International Water Week, 17-23 Aug., 2009 Stockholm, Sweden.
- International conference on water and climate change in the MENA region, 28-29 April, 2011, Germany.
- International Water Week, 1-5 May, 2011, Germany.
- Specialized workshop on Landfills of Hazardous Waste and its Implications on Health and Environment, Lulea University of Technology, 15-17 November, 2011.
- 6th International Conference on Scour and Erosion, 28-31 August, 2012, Paris, France.
- 1st International Conference on Petroleum and Mineral Resources, in Koya, Kurdistan, Iraq, 3rd - 6th December 2012.
- Ost-westlicher Diwan e.V. Köln, Germany, Die Auswirkungen von Uranmunition auf Gesundheit und Umwelt im Irak, 19 October 2013
- Second Engineering conference, Mosul University, 19-21 November, 2013.
- First International Symposium on Urban Development of Koya as a case study, 16-18 December, 2013, Koya University, Iraq.
- 8th edition of the international scientific Congress of GIS and geospace applications Geotunis 2014 April 02 to April 06, 2014 Tunis/ Hammamet.

- International Commission on Large Dams" ICOLD" conference, Hydropower 15, Stavanger, Norway 15-16 June 2015. (presenting 2 papers)
- International Symposium on Energy Challenges and Mechanics, 8-10 July, Aberdeen, UK. (Presenting paper and chairing a session).
- Organizing the International workshop on: Geological and engineering problems of the most dangerous dam in the world (Mosul Dam), 24-25 May, 2016, Stockholm, Sweden.
- IWA specialist Groundwater conference, Belgrade 9-11 June 2016.
- International Symposium on Energy Challenges and Mechanics, 14-18 August, 2016, Inverness UK.
- 8th International Conference on Scour and Erosion, 12-15 Sept. 2016 Oxford, UK
- Cost conference 2016, 22-23 September, 2016, Ängelholm, Sweden.
- Hydrology day 2017 (Hydrologidagarna 2017), 16-17 March in Gothenburg, Sweden.
- Second annual Environmental International Conference, 15-16 April, 2017, Karbalah, Iraq.
- International Conference on Environmental Impacts of the Oil and Gas Industries: Kurdistan Region of Iraq as a Case Study, 17-19 April, 2017, Koya University, Koya, Kurdistan Region, Iraq.
- 10th World Congress on Water Resources and Environment, 5-9 July, 2017, Athens, Greece.
- International Research conference on Sustainable Energy, Engineering, Materials and Environment, 26- 28 July, 2017, Northumbria University, Newcastle, UK.
- 7th International Symposium on Energy Challenges and Mechanics, 13-17 August 2017, Manchester M1 4PH, United Kingdom.
- Swedish Geotechnical engineering annual meeting, 28<sup>th</sup> September, 2017, Sundsvall, Sweden.
- Keynote speaker at the 4<sup>th</sup> Iraqi Oil and Gas conference at the Petroleum Research and Development Center, Basrah, Iraq for the period 13-14 December, 2017s Sustainable
- Towards Sustainable Water Resources Management in Iraq, Workshop organized by Al Kindi Society of Engineers, Chartered Institution of Water and Environmental Management, London 31<sup>st</sup> June, 2018.
- Desertification and Water Scarcity in Iraq: Effects and Solutions conference, 1<sup>st</sup> July 2018, London. Conference organized by The Association of Iraqi Academics, UK.
- Chairing a session and presenting a paper at sixth Annual International Forum on Water, 16-19 July 2018, Athens, Greece.
- Energy 8, member of scientific committee, chairing a session and presenting a paper, 6-9 August 2018, Aberdeen, UK.
- Water Scarcity in Iraq: Reality and Future Challenges, Conference organized by the Iraqi Forum for Intellectuals and Academics, 16-17 August, Istanbul, Turkey.
- Vaasa Wild life Festival, 26-30 September, Vaasa, Finland.
- Workshop on The risks of water crisis in Iraq and its causes and possible solutions, Organized by Iraqi Ministry of Planning, 10-11 November, 2018, Baghdad, Iraq.
- Vaasa Wild life Festival, 26-30 September, Vaasa, Finland.
- Workshop on The risks of water crisis in Iraq and its causes and possible solutions, Organized by Iraqi Ministry of Planning, 10-11 November, 2018, Baghdad, Iraq.
- First Conference of the Arabian Journal of Geosciences, 12-15 November, 2018, Hammamat, Tunisia.

## OTHER UNIVERSITY ACTIVITIES

1976 - Now	Supervision of postgraduate students (more than 60 Ph.D. and MSc).
1976 - 1995	Member of the scientific committee at the department of geology, Baghdad University.

1976 - 1995	Member of the postgraduate committee at the department of geology, Baghdad University.
1988 - 1995	Member at the committee of Staff development, Ministry of Higher Education and Scientific Research, Baghdad.
1993 - 1995	Member at the committee for the development of the geological curricula at the Iraqi universities.
1990 - 1995	Member of the scientific committee of the High Societies Congress, Iraq.
1995 - 2006	Member of the Dean's council at Al al-Bayt University, Jordan.
1996	Developing scientific cooperation program (coordinator) in Water Resources between Al al-Bayt University and Exeter University, UK.
1998	Developing scientific cooperation program (coordinator) in Water Resources between Al al-Bayt University and Coventry University, UK.
1998-2006	Member of the central postgraduate committee at Al al-Bayt University.
1998-2006	Member of the central scientific research committee at Al al-Bayt University.
1998	Developing scientific cooperation program (coordinator) in Water Resources between Al al-Bayt University and Liverpool John Mores University, UK.
2000 – 2006	Member of the delegate of Al al-Bayt University for developing new regulations and laws for Jordanian universities.
2001 - 2006	Member of Al al-Bayt University Council.
2001 - 2006	Member of staff Appointment and Promotion committee at Al al-Bayt University.
15/17-11 2011	Member, organization committee for the International workshop on Landfills of hazardous waste and its implications on health and Environment, Sweden.
05/2011-2/2017	Member of the editorial board of the journal of Earth Sciences and Geotechnical Engineering.
06/2011	Member of the editorial board of the journal of <u>Journal of Advanced Science and Engineering Research</u> .
09/2011	Member of the editorial board of the journal Geosciences Research.
07/2011-2014	Member of the editorial board of Central European Journal of Engineering.
07/2011	Member of the editorial board of the Journal of Purity Utility reaction and Environment.
01/2012	Coordinator and lecturer at the course on MODERN TEACHING AND RESEARCH TECHNIQUES, Special training course for University staff member's development at Lulea University – LTU, 16 January-10 February, 2012.
02/2013	'Advisory Board Member' for J. Geosciences Research
08/2013	Member of the editorial board for International J. of Mathematics and Statistics Invention
09/2014	Member of the editorial board of International J. of Earth and Environmental Sciences.
06/2014	Member of Editorial Board of Mesopotamia Environmental Journal (MEJ).
4/2015	Member of the Editorial board of Journal of Baghdad for Science.
7-9/9/2015	Member of the Advisory committee for the 2nd International Conference on Purity, Utility Reaction and Environmental Research-PURE2015, Kuala Lumpur, Malaysia.
15-16/12/ 2015	Member of the scientific committee of the sixth International Conference for Environmental Sciences, University of Babylon.



5/2015	Member of the editorial board of the journal Open Engineering.
10/2015-3/2016	Member of the Scientific Committee for the International Water Conference 2016 (Water Resources in Arid Areas: The Way Forward), March 13-16, 2016.
1/2014	Member of the Editorial board of Journal of Civil Engineering and Architecture Research.
1/2016	Member of the Editorial board of International Journal of Engineering and Science Invention
2/ 2017	Chief Editor, J. Earth Sciences and Geotechnical Engineering.
10-12/7/2017	Member, Scientific committee for the International conference on Petrochemical Engineering, Dubai, UAE
9/2017	Member of the Editorial board of Journal of Insights of Agricultural Technologies
3/2018	Member of the Editorial board of World Wide Journal of Engineering and Technology
4/ 2018	Member of the organization committee for the International Conference on Oil and Gas, Singapore 12-13 September 2018.
12-15/Nov., 2018	Member of the scientific committee (Track 6. Hydrology, hydrogeology, hydrochemistry), 1st Conference of the Arabian J. Geosciences (CAJG), Hammanet, Tunisia.
4/2018	Member of the editorial board of the Asian Journal of Geographical Research
2/2018	Member of the editorial board of the J. of Science, Baghdad University.
4/2018	Member of the editorial board of the Iraqi Bulletin of Geology and Mining.
6/2018	Member of the editorial board of the J. Insight-Engineering and Technology
6/2018	Member of the editorial board of the J. of Earth & Environmental Science Research & Reviews
10/2018	Member Editorial Board journal "Water".
11/2018	Member Editorial Board International Journal of Earth Science and Geology (IJEG)
01/2019	Member Editorial Board J. Hydro Science & Marine Engineering

## COMMUNITY SERVICES

### **A. Major Scientific Consultations:**

- Geological, geophysical and hydrological investigation of Mosul dam area (1984) (10000 USD, Ministry of Irrigation, Iraq).
- Geological, geophysical and hydrological investigation of Mosul dam Reservoir (1985) (5000 USD, Ministry of Irrigation, Iraq).
- Bathymetry of Hemrin Reservoir (1986) (1000000 USD, Ministry of Irrigation, Iraq).
- Hydrological investigation of Hemrin Reservoir (1987) (10000 USD, Ministry of Irrigation, Iraq).
- Hydrological investigation to establish the best navigable route at River Tigris from Baghdad to Sammara and Tharthar canal (1990) (40000 USD, Ministry of Irrigation, Iraq).
- Hydrological analysis for preventing city Baghdad form floods (1991) (300000USD, Ministry of Irrigation, Iraq).
- Establishing position of intake pipes for AL hakam Factory (1991) (30000 USD, Ministry of Industry, Iraq).
- Hydrological investigation of Euphrates River at Bridge site (1991) (25000USD, Ministry of Transport, Iraq).

- Hydrological and geological investigation of Rawa Bridge site (1992) (15000USD, Ministry of Transport, Iraq).
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- De-watering of Hindiya cement factory site (1992) (16000USD, Ministry of Oil, Iraq).
- Stability of River Euphrates at Anbar power plant (1992) (25000USD, Ministry of Industry, Iraq).
- Geotechnical, hydrological and geophysical investigation for Baiji thermal power station sites (1992) (150000USD, Ministry of Industry, Iraq).
- Geological, geophysical and hydrological investigation of pumping storage scheme for generation of electricity at Makhul Mountain (1992) (350000USD, Ministry of Industry, Iraq).
- Hydrological investigation of River Tigris to find the best navigable route from Baghdad to Umarah (1992) (310000USD, Ministry of Irrigation, Iraq).
- Evaluation of the geometry of River Tigris at Baghdad for navigation purposes (1992) (320000USD, Ministry of Irrigation, Iraq).
- Possibilities of groundwater utilization from Um Radhuma aquifer (western desert) (1993) (250000 USD, Ministry of Irrigation, Iraq).
- Utilization of Groundwater on high way No.1 (Hit-Haditha to Km 251) (1993) (250000 USD, Ministry of Irrigation, Iraq).
- Utilization of groundwater on Highway No.1 sectors 2 and 3 (Km 251 to Iraqi-Jordanian border) (1993) (250000 USD, Ministry of Irrigation, Iraq).
- Hydrological investigation of Shammal Thermal Power Plant site (1994) (230000USD USD, Ministry of Industry, Iraq).
- Geological and Hydrological of the secondary Shammal Power plant site (1994) (230000USD, Ministry of Industry, Iraq).
- Various short-term consultancy activities for Electrical projects company (250000USD USD, Ministry of Industry, Iraq).
- Physical separation of iron deposits (1994) (120000USD USD, Ministry of Industry, Iraq).
- Installation of piezometers at Hemrin dam site (1994) (30000USD, Ministry of Irrigation, Iraq).
- Slope stability analysis of Wadi Al-sir Wastewater treatment plant, Jordan (1995) (50000USD, Ministry of Industry, Jordan).
- Hydrogeology of Hama spring, Jordan (1996) (40000USD, Ministry of Irrigation, Jordan).
- Sediment transport in selected valleys in Mafraq area (120000USD, AL-al Bayt University).
- Sediment transport in Badia desert using Cs isotope 137 (joint research project with Exeter University, U.K.).(500000USD, British Council- 1997).
- Utilization of Water resources in low rain areas east Mafraq. (360000USD, Ministry of Water and Irrigation, Jordan- 1996).
- Erosion and Sedimentation problems in different environmental conditions, their causes and control measures. (360000USD, UNESCO –1997).
- Optimization of meteorological stations in Badia area. (120000USD, Higher Council for Science and Technology – Jordan 1998).
- Sediment transport in Badia desert - Jordan (270000USD, Higher Council for Science and Technology – Jordan -1998).
- Water quality monitoring in Mafraq City and Al al-Bayt University. (Sponsored by AL-al Bayt University).
- Dust monitoring at Mafraq Area. (Sponsored by AL al-Bayt University).
- Existing Water Harvesting Schemes at the Badia desert. (400000USD Higher Council for Science and Technology – Jordan –1998).
- Natural Recharge of Ground water. (360000USD, Higher Council for Science and Technology – Jordan –1998).
- Water quality in the Badia region using remote sensing techniques. (joint project with Coventry University) (360000USD, British Council – 1999).
- Waste water treatment and re-use (joint project with Liverpool John Mores University) (360000USD, British Council-1999).

- Multidisciplinary study for the development of water resources in the Badia region. (750000USD, World Bank –1998).
- Sustainable development of water resources and the environment in the Badia region. (125000USD, World Bank –1999).
- Water resources management in Sarhan Basin, Jordan. (40000USD, G-77 UNDP – 2000).
- Water resources management in the Badia region as an example of arid and semi-arid regions. (40000USD, G-77 UNDP –2001).
- Ancient Water Harvesting Schemes at Badia Region. (36000USD, UNESCO –2000).
- Waste water treatment, management and re-use in Mediterranean countries. (500000EUR, EU –2002).
- Upgrading postgraduate labs in Earth and Environmental Sciences (40000 USD, Ministry of Planning, Jordan- 2002).
- Producing Efficient and High Quality Graduates for the Water Industry through Better Understanding and Implementation of Information Technology. (250000USD, World Bank –2000).
- Development of Multidisciplinary Postgraduate Research Program In Water Industry Oriented for Arid and Semi-Arid Regions (36000USD, UNESCO –2006).
- Drainage rainfall network for the new football area and surroundings (Sponsored by Boden Kommun, Sweden), 2007.
- Central Labs for Scientific, Engineering, Medical Industry, Medicine and Agriculture, Submitted to Iraqi Ministry of Higher Education, Feb. 2012.
- Suggested Landfill Sites for Hazardous Waste in Iraq, Submitted to Iraqi Ministry of Environment, Dec. 2012.
- Identification of most appropriate activities to be conducted on water and sanitation in Iraq (5000USD, Agence Francaise de Development “AFD”. February, 2014).

#### **B. Training courses, lectures, seminars and articles of general interest:**

- Five lectures at different seminars organized by Jordanian Environment Society (since1996).
- Lectured at all the seminars organized by Al al-Bayt University on water resources, hydrology and hydrogeology of desertic areas (1995-2006).
- Lectured on Water Resources in the Arab World at the University of Wales-Cardiff (U.K.), (April 1996).
- Invited to give lectures on Hydrology and Hydrogeology of the Arab Countries in January 1999 at the University of Coventry (U.K.).
- Organized and lectured at all the seminars and training courses of hydrology and hydrogeology at the Geological Society of Iraq, Iraqi Scientific Society for Water Resources and the University of Baghdad - College of Science (1976-1995).
- Lectured at the seminar organized by the Islamic Network on Water Resources Development and Management (1996).
- Lectured in most of the seminars organized by the Badia Development program (since 1996).
- Lectured at several Jordanian Universities (e.g. Science and Technology - Irbid - Mutaa University) since 1998.
- Training course on Groundwater Modelling in Shaidiah Area (one month), Phosphate Mining Company, 1999.
- Waste water treatment and re-use, 16 training courses (4 regional and 12 national) supported by EU (2004-2006).
- Training course for Iraqi Universities staff at Lulea University of Technology, 16 January-10 February, 2012, sponsored by UNESCO and Iraqi Ministry of Higher Education and Scientific Research.
- Identification of most appropriate activities to be conducted on water and sanitation by Agence Francaise de Development “AFD”, December 2013.
- Training course for Iraqi University staff at Duhok Polytechnic and Zakho Universities, 21-27 February, 2014, sponsored by Duhok Polytechnic and Zakho Universities.

- Training course for Iraqi Universities staff at Sulaimani University, 4-16 May, 2014, sponsored by UNESCO and Sulaimani University.
- Mosul Dam Geological and Engineering problems, 20<sup>th</sup> April 2016, Iraqi Crisis conference, Rome, Italy.

## POSITION OF RESPONSIBILITY AND ACTIVITIES

1968-1973	Member of the Publication Committee and Scientific Committee of the Iraqi Geological Society.
1974-1976	Rapporteur of the Department of Geology, Baghdad University.
1976-1980	Chairman of Scientific Congress Committee of the Arab Geological Association.
1977-1995	Member of Various committees in the Department of Geology Chairman of Various Sessions at International Conferences. Member of the Higher Scientific Society's Congress in Iraq. Supervising number of Ph.D. and M.Sc. Students. Undertaking several consulting strategic projects.
1977	Member of the organizing committee of the second Iraqi congress for of Geological Education.
28-31/12/1978	Secretary General of the 5th Iraqi Geological Congress.
28-31/12/1980	Secretary General of the 6th Iraqi Geological Congress.
1980-1982	Secretary General of the Geological Society of Iraq.
1981	Chairman of 1st Iraqi Hydrological Conference, Baghdad.
1981-1988	President of Geological Society of Iraq.
1981-1988	Member of the Editorial Board of the Journal of Geological Society of Iraq, since 1980 and them its Chief Editor.
1981-1992	Secretary of Editorial Board of the Journal of Water Resources.
1983-1988	Member of Iraqi National Committee for the International Geological Program.
1983 – 1995	Member of Iraqi National Committee for the International Hydrological Program.
1984	Chairman of 2nd Iraqi Hydrological Conference, Baghdad.
1984 – 1995	Member of Iraqi National Committee for Geodesy and Geophysics.
1984 – 1995	Member of Iraqi National Committee for Biosphere Program.
1985	Vice Chairman of the 7th Iraqi Geological Congress.
1985 – 1995	Member of Iraqi National Committee for Man and the Biosphere Program.
1986	Chairman of the International Symposium Erosion and Sedimentation in Arab Countries, Baghdad.
1987-1988	Consultant for Rafidian Company for Dam Construction.
1987-1991	Vice President of the International Commission for Continental Erosion ICCE.
1987 - 1995	National Correspondent of International Commission for Continental Erosion in Iraq.
1989	Chairman of 3rd Iraqi Hydrological Conference, Baghdad.
1992 - 1993	Chairman, Department of Geology, Baghdad University.
1991- 1995	President of the Iraqi Scientific Society for Water Resources.
3/9/1995 – 24/9/2006	Director of the “Strategic Environment and water Resources Research Unit”, Al-al Bayt University, Jordan.
04/1996	Lectured on Water as a strategic resource in Arab region in the University of Wales, Cardiff, U.K..
1997-2007	Member of the National Jordanian Committee for the International Hydrological program.
1997-2007	Member, editorial board of Al-Manarah scientific journal of Al al-Bayt University.

2000-2007	Member of the Jordanian High Committee for the Development of Higher Education Development Project.
1/9/2001 – 1/9/2006	Dean of the Institute of Earth and Environmental Sciences - IEES.
12/2006 – now	Professor, Lulea University of Technology, Sweden.
12-15/2018	Member of the scientific committee (Track 6. Hydrology, hydrogeology, hydrochemistry), 1st Conference of the Arabian J. Geosciences (CAJG), Hammanet, Tunisia.
4/ 2018	Member of the organization committee for the International Conference on Oil and Gas, Singapore 12-13 September 2018.
10/2018	Member Editorial Board journal "Water".

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61. **Jia, Q., 2015**, Estimation of Industrial dust using exposure-profiling method, PhD thesis, Department of Civil, Environmental and Natural Resources Engineering, Lulea University of Technology, Sweden.
62. **Al-Taie, E., 2016**, Analysis of shallow foundations in three different regions in Iraq. PhD thesis, Department of Civil, Environmental and Natural Resources Engineering, Lulea University of Technology, Sweden.
63. **Ali, Ammar, 2016**, Three Dimensional Hydro-morphological Modelling of Tigris River. PhD thesis, Department of Civil, Environmental and Natural Resources Engineering, Lulea University of Technology, Sweden.
64. **Chabuk, Ali, 2016**, Analysis of Landfill site selection-Case studies of Al-Hilla and Al-Qasim Qadhaas, Babylon, Iraq, Licentiate thesis, Department of Civil, Environmental and Natural Resources Engineering, Lulea University of Technology, Sweden.
65. **Abdullah, T., 2017**, Groundwater Vulnerability Using DRASTIC model Applied to Halabja SaidSadiq Basin, Iraq, Licentiate thesis, Department of Civil, Environmental and Natural Resources Engineering, Lulea University of Technology, Sweden.
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### ON GOING PhD STUDENTS RESEARCH PROJECTS

1. **Mohammed, E.M.,** Application of the Geographic Information System to estimate sediment load in Mosul dam reservoir, Iraq. (Lulea University of Technology).
2. **Chabuk, Ali,** Landfill site selection criteria at Babylon city. (Lulea University of Technology).

3. **Abbas, N.**, Climate Change and its effects on water quantity and quality in Iraq. Joint supervision with Central Queensland University, Australia.
4. **Hassan, Rebwar,** Hydrology and Siltation of Dokan Dam Reservoir, Iraq.
5. **Zainy, M.T.**, Tectonic and Structural Evolution for Western Zagros Fault- Thrust Belt North-eastern Iraq.
6. **Abdullah, T.O.**, Groundwater Vulnerability Mapping and environmental studies of Said Sadiq-Halabja area, Sulaimani, NE-Iraq. *Joint supervision with Sulaimani University, Kurdistan Region, Iraq.*
7. **Alkaradaghi, K.M.R.**, Site selection municipal solid waste management using GIS technique, Joint supervision with Sulaimani University, Kurdistan Region, Iraq.

## REFERENCES

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